

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**DOCKET NOS. R-2021-3027385, R-2021-3027386**

**AQUA PENNSYLVANIA, INC.  
AQUA PENNSYLVANIA WASTEWATER, INC.**

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**PREPARED DIRECT TESTIMONY OF  
WILLIAM C. PACKER**

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**Topics Addressed:**

**The Company's Need for Rate Relief, Overview of the Principal Accounting Exhibits  
Certain Expense Claims, Rate Base Claims, Rate Design, Proposed Capitalization Ratios,  
Return on Equity Considerations,  
And Various Other Matters**

DATE SERVED: August 20, 2021  
DATE ADMITTED: \_\_\_\_\_

**Aqua Statement No. 1**

## TABLE OF CONTENTS

I.	INTRODUCTION AND PURPOSE OF TESTIMONY .....	1
II.	AQUA PA’S NEED FOR RATE RELIEF.....	3
III.	INTRODUCTION OF OTHER WITNESSES.....	9
IV.	AQUA PA’S EFFORTS TO CONTROL O&M EXPENSES.....	10
V.	PRINCIPAL ACCOUNTING EXHIBITS .....	11
VI.	OPERATING EXPENSES .....	14
A.	OVERVIEW OF ADJUSTMENTS.....	14
B.	ACQUISITIONS SINCE THE 2018 BASE RATE CASE .....	19
C.	DEFERRED ACCOUNTING TREATMENT OF BAD DEBT DUE TO THE COVID-19 PANDEMIC.....	22
VII.	DEPRECIATION, TAXES AND OTHER ITEMS.....	24
VIII.	RATE BASE.....	26
IX.	RATE DESIGN .....	28
X.	CAPITAL STRUCTURE RATIOS .....	29
XI.	RETURN ON EQUITY CONSIDERATIONS .....	30
XII.	SATISFACTION OF COMMITMENTS FROM THE COMPANY’S 2018 BASE RATE CASE SETTLEMENT .....	45
XIII.	CONCLUSION.....	45

1                                   **I. INTRODUCTION AND PURPOSE OF TESTIMONY**

2   **Q. What is your name and business address?**

3   A. William C. Packer. My business address is 762 W. Lancaster Avenue, Bryn Mawr,  
4       Pennsylvania 19010.

5   **Q. By whom are you employed and in what capacity?**

6   A. I am employed by Essential Utilities, Inc. (“Essential” or the “Parent Company”) as Vice  
7       President Regulatory Accounting and Regional Controller. Essential is the Parent  
8       Company of Aqua Pennsylvania, Inc. and Aqua Pennsylvania Wastewater, Inc.  
9       (collectively “Aqua PA,” “AP” or the “Company”).

10 **Q. Please describe your education and business experience.**

11 A. I graduated from the Richard Stockton College of New Jersey in 1998 with a Bachelor of  
12       Science degree in Business Studies with a concentration in Accounting. I began my 20-  
13       year career in the utility industry in September 1999, when I joined New Jersey American  
14       Water Company (“NJ American”) as a General Staff Accountant and from 2001 to 2005  
15       held various positions in finance and accounting at NJ American. At NJ American, I had  
16       the opportunity to support the rate-making process by working closely with operating  
17       subsidiaries in 23 states preparing schedules and exhibits and answering interrogatories.

18               I began my career within the Aqua corporate family in March 2005 where I joined  
19       Aqua New Jersey, Inc. as Assistant Controller. I held this position until December 2006  
20       when I transferred to Aqua America, Inc. and have held a variety of positions in finance  
21       and accounting. Since starting at Aqua, I have been the chief accounting and revenue  
22       requirement witness in rate cases filed before the Pennsylvania Public Utility Commission  
23       (“PA PUC” or the “Commission”) since 2008.

1           In addition to my corporate experience, I was elected as Mayor of the Borough of  
2           Woodbury Heights and sworn in on January 5, 2019. The Borough of Woodbury Heights  
3           is one of 565 municipalities in the state and has a population of approximately 3,000. I  
4           have been an elected official since 2010 and the Borough owns and operates both its own  
5           water and wastewater utilities, thus giving me a unique perspective to the considerations  
6           municipalities face when it comes to providing utility service to its residents.

7   **Q.    What is the purpose of your testimony?**

8    A.    The purpose of my testimony is as follows: (1) Section II of my direct testimony explains  
9           the Company’s need for rate relief; (2) Section III introduces the other witnesses that  
10          provide direct testimony on behalf of Aqua PA and support various other aspects of the  
11          Company’s initial filing; (3) Section IV of my testimony describes Aqua PA’s efforts to  
12          control operating and maintenance (“O&M”) expenses, while continuing to provide safe  
13          and reliable service; (4) Section V identifies and describes the principal accounting exhibits  
14          (*i.e.*, AP Exhibits 1-A (Water) and 1-B through 1-G (Wastewater)) submitted in support of  
15          Aqua PA’s proposed rate increase for water and wastewater operations, respectively; (5)  
16          Sections VI through VIII explain and support the Company’s operating expense and rate  
17          base claims;<sup>1</sup> (6) Section IX describes any major changes, or other matters, related to Aqua  
18          PA’s proposed rate structure and rate design necessary to implement the proposed base rate  
19          increase; (7) Section X describes the Company’s proposed capital structure; (8) Section  
20          XI identifies various factors the Commission should consider when determining the  
21          appropriate return on equity for Aqua PA, explains why Aqua PA is entitled to an equity

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<sup>1</sup> I note that this section also describes (a) the Company’s ongoing efforts to run and operate systems in receivership and deferred accounting of the costs associated with such receiverships, and (b) the Company’s proposal for deferred accounting of bad debt expense resulting from the COVID-19 pandemic and the moratorium on service terminations for non-payment.

1 allowance that recognizes exemplary managerial performance, and recommends the  
2 appropriate return on equity to be utilized in this proceeding in light of the analysis of Mr.  
3 Paul R. Moul (AP Statement No. 7); and (9) Section XII discusses the Company's  
4 satisfaction of the commitments it made in the settlement of certain issues in its last water  
5 and wastewater base rate case.

6 **Q. For which of the Company's principal exhibits are you responsible?**

7 A. I am responsible for the primary accounting exhibits for water and wastewater operations,  
8 respectively, AP Exhibits 1-A through 1-G. In addition, I oversaw and assisted in the  
9 preparation of the backup volumes that contain responses to the Commission's standard  
10 rate case filing requirements with respect to: A. Statement of Income, B. Operating  
11 Revenues, C. Operating Expenses, D. Taxes, E. Rate Base, G. Rate of Return, H. Rate  
12 Structure, J. Balance Sheet, and K. Other Data.

13 **II. AQUA PA'S NEED FOR RATE RELIEF**

14 **Q. Why is Aqua PA seeking rate relief at this time?**

15 A. The Company's last consolidated water and wastewater base rate case was filed three years  
16 ago at Docket Nos. R-2018-3003558, R-2018-3003561, et al. ("2018 Base Rate Case").  
17 Rates established in that case became effective on May 24, 2019. Since March 31, 2020  
18 (*i.e.*, the end of the fully projected future test year used in the 2018 Base Rate Case), the  
19 Company have invested nearly \$330 million in utility infrastructure through the historic  
20 test year ("HTY") ended March 31, 2021, and the Company's project that they will invest  
21 another \$800 million through the fully projected test year ("FPFTY") ending March 31,  
22 2023.

23 **Q. Please describe the Company's level of investment since the 2018 Base Rate Case.**

1 A. Since the end of its last base rate case, the Company’s average capital expenditure program  
2 for water and wastewater operations has been approximately \$325 million annually.  
3 Indeed, the Company’s had been investing in new and replacement infrastructure for many  
4 years at an accelerated rate in order to proactively address aging infrastructure and evolving  
5 regulatory requirements. The accelerated levels of investment, particularly since the  
6 establishment of the Distribution System Improvement Charge (“DSIC”), have enabled  
7 significant enhancements to the Company’s utility infrastructure. As a result, main breaks  
8 and water quality complaints have been reduced and Aqua PA’s unaccounted for water  
9 metrics have been improving, particularly for smaller acquired systems.

10 For water operations, Aqua PA has an annual average investment per year of  
11 approximately \$325 million. The majority of this investment is dedicated to the  
12 distribution system mains and appurtenances such as hydrants, service lines, and meters.  
13 For wastewater operations, Aqua PA has an average annual investment of approximately  
14 \$25 million. The vast majority of this investment has been directed towards base  
15 wastewater operating systems that were presented in the 2018 Base Rate Case. Notably,  
16 this case also includes a meaningful investment in Aqua PA’s Information Technology  
17 (“IT”) systems. Specifically, the Company is installing a new financial reporting system,  
18 SAP, and will cease to operate on its legacy reporting system Lawson. Aqua PA has been  
19 operating and maintaining the Lawson system since 1996. Aqua PA was planning to make  
20 this change and given the recent acquisition by the Parent Company Essential of Peoples  
21 Gas, including Peoples Natural Gas Company, LLC and Peoples Gas Company, LLC,  
22 which are already using SAP, Essential has decided the time was right to align all utilities

1 on the same reporting platform. SAP is a highly regarded enterprise system that will serve  
2 the Company for many years to come.

3 Considering the investments that have been made, Aqua PA's need for rate relief  
4 includes recovery for an increase in annual depreciation expense, which is further  
5 explained and supported in the testimony of Aqua PA witness John Spanos, AP Statement  
6 No. 6.

7 **Q. What are some of the other factors driving Aqua PA's need for rate relief?**

8 A. In addition to needed infrastructure investment, Aqua PA has experienced increases in its  
9 O&M expenses since its 2018 Base Rate Case. Many of those O&M expenses are due to  
10 the increase in the size of its operations with the continued acquisition of water and  
11 wastewater service territories. On the whole, O&M costs have increased approximately  
12 3.7% since the Company's 2018 Base Rate Case. Lastly, the Company's need for rate  
13 relief is occasioned by the nearly expired amortization of the IRS Section 481(a)  
14 adjustment ("Catch-up"), which was authorized in its prior rate case at Docket No. R-2011-  
15 2267958 ("2011 Base Rate Case") and incorporated into the calculation of income tax  
16 expense in the 2018 Base Rate Case. The reduction in the remaining benefit of this  
17 adjustment has increased the Company's projected effective tax rate to approximately  
18 13.50%.

19 **Q. Has the COVID-19 pandemic impacted customer usage? If so, what has Aqua PA  
20 proposed as a part of this base rate case to address any changes?**

21 A. Yes, the COVID-19 pandemic has impacted customer usage. In the 2018 Base Rate Case,  
22 total water consumption for the purposes of establishing rates was approximately 33 billion  
23 gallons of annual sales to our various classes of customers, primarily residential,

1 commercial, and industrial. With the COVID-19 shut-downs experienced in 2020 and the  
2 beginning of 2021, Aqua PA saw expected declines in consumption by the commercial and  
3 industrial classes, but also saw offsetting increased consumption in the residential class.  
4 Given the re-opening of businesses, public buildings, schools, and industrial production  
5 returning, Aqua PA has seen these effects start to reverse. Accordingly, in this case, Aqua  
6 PA has made adjustments to its billing determinants to consumption to be reflective of pre-  
7 COVID-19 levels. Overall consumption gallons have remained approximately 33 billion  
8 gallons annually throughout the pandemic, which provides the basis for setting rates in this  
9 case. Lastly, Aqua PA has proposed that the Commission continue its authorization for  
10 deferred accounting treatment of the incremental effects of COVID-19 experienced by the  
11 Company to date.

12 Aqua PA, like other utilities in the Commonwealth, experienced delays in its  
13 collection of revenues billed to customers during the pandemic. As a result of these delays,  
14 Aqua PA recorded higher levels of bad debt expenses, over and above those implicitly  
15 authorized in its 2018 Base Rate Case. Those amounts are currently recorded as a  
16 regulatory asset on the Company's books, in the amount of approximately \$5.7 million.  
17 Aqua PA is continuing to monitor and adjust its regulatory asset as the Company and its  
18 customers deal with the continued effects of COVID-19. Aqua PA is proposing only that  
19 the deferred accounting of increased bad debt continue and, therefore, any amounts  
20 deferred would be examined for reasonableness in its next base rate case proceeding.

1 **Q. Please elaborate specifically on the need for rate relief related to Aqua PA's**  
2 **wastewater systems.**

3 A. In regard to wastewater operations, Aqua PA began to provide this service in 1996, with  
4 the acquisition of the Little Washington Service Area. Since then, Aqua PA has acquired  
5 and rehabilitated different types of wastewater systems, many of which are troubled for a  
6 variety of reasons. Currently, Aqua PA furnishes wastewater service to approximately  
7 40,000 customers. While small in comparison to Aqua PA's water utility business, which  
8 services approximately 450,000 customers, the wastewater business requires a  
9 considerable amount of investment. Aqua PA further expects, based upon its experience  
10 with wastewater operations, that this is a business that will continue to increase in size  
11 materially consistent with the Commission's and Commonwealth's policies on  
12 consolidation of wastewater systems.

13 To provide some historical background, Aqua PA's wastewater utility began filing  
14 wastewater rate cases in the 2008 – 2010 timeframe. During this time, it also began the  
15 process of consolidating many individual systems throughout the Commonwealth with the  
16 goal of being able to file a single rate case on a consolidated basis for all of its wastewater  
17 operations. That goal was achieved in the 2018 Base Rate Case, with a single revenue  
18 requirement study encompassing all of Aqua PA's wastewater operations in one filing.  
19 This case presents the Company's base operations separately, which are those individual  
20 wastewater systems that were presented in the 2018 Base Rate Case, but also presents  
21 separately the wastewater system acquisitions acquired since the 2018 Base Rate Case as  
22 part of the Section 1329, 66 Pa.C.S. § 1329, Fair Market Value acquisition process.

1           In this proceeding, the Company has proposed to continue to allocate a portion of  
2 its wastewater cost of service amongst its customer base to moderate the rate increase  
3 impact to wastewater customers. The Company’s request for rate relief is necessary to  
4 provide a reasonable opportunity to have its wastewater operations earn a fair rate of return.

5 **Q. Please explain the Company’s efforts to reduce its overall borrowing costs.**

6 A. Aqua PA historically has had, and currently has, a solid A credit rating from Standard and  
7 Poor’s (“S&P”), which results in a lower cost of borrowing. Given its favorable credit  
8 rating and the opportunity afforded by the historically low interest rate environment that  
9 has prevailed since the 2018 Base Rate Case, the Company has proactively taken advantage  
10 of long-term debt with interest rates in the 4.0% to 4.5% range for the significant level of  
11 investments (*i.e.*, approximately \$325 million) it made through the end of the HTY in this  
12 case when its capital investment program was at its peak. Aqua PA is planning to continue  
13 to use the relatively low interest rate environment to lock in favorable borrowing costs for  
14 the additional \$800 million that it will invest during the future test year (“FTY”), and the  
15 FPFTY in this case. As it has done historically, Aqua PA has continued to refinance  
16 callable/expiring long term debt at lower rates, and it is able to utilize very low cost of debt  
17 rates for the next 20 to 30 years. The benefit of the Company’s financing and refinancing  
18 efforts since the 2018 Base Rate Case resulted in the reduction of its weighted average cost  
19 rate of long-term debt from 4.43% to 4.00% as forecasted for the FPFTY. This reduction  
20 in embedded long-term debt costs results in annual savings to customers of approximately  
21 \$8.3 million, based on the Company’s 46.08% long-term debt ratio.



- 1           • **AP Statement No. 10 – Rita F. Black.** Ms. Black testifies regarding Aqua PA’s  
2           current low-income programming, and in support of Aqua PA’s proposal to  
3           implement a recoverable universal service plan.

4           **IV. AQUA PA’S EFFORTS TO CONTROL O&M EXPENSES**

5   **Q. Please explain Aqua PA’s ongoing efforts to control O&M expenses since the base**  
6   **rates established in the 2018 Base Rate Case became effective on May 24, 2019, for**  
7   **water and wastewater operations.**

8   A. The Company’s projected O&M expenses (excluding depreciation) for the FPFTY in this  
9   case reflect compound annual growth rate over its O&M claims in the 2018 Base Rate Case  
10   of less than 1.3%. There are a few factors that played important roles in achieving this  
11   level of growth—*i.e.*, Aqua PA’s pension expense, expansion of the Parent Company’s  
12   utility service by way of the Peoples Gas acquisition in 2020, operating efficiencies  
13   derivative of capital investment activities, and operating efficiencies in wastewater.

14           Regarding pension expense, Aqua PA is projecting that its gross funding  
15   contribution for its pension trust will be reduced to \$5.7 million for the FPFTY. This  
16   reduction is possible because the Company has consistently funded its pension plan over  
17   many years, which positioned it well to capitalize on an extended period of favorable equity  
18   returns that produced solid performance for the portfolio of investment held by its pension  
19   trust. The Company closed its defined benefit pension plan to employees hired after April  
20   1, 2003, which also helped to control pension costs. While the pension plan has been  
21   effectively frozen at the level of pre-2003 employees, the Company still has a considerable  
22   number of pension-eligible employees who continue to accrue benefits that require  
23   funding. However, due to the Company’s prudent management of its pension plan, those  
24   future requirements have been substantially reduced in this case.



1 Section 1329 of the Code, 66 Pa.C.S. § 1329, provided that the Company would submit  
2 separate cost of service studies for those systems in its next base rate case.

3 **Q. Please explain the content of Exhibits 1-A and 1-B through 1-G.**

4 A. Exhibits 1-A and 1-B through 1-G are being submitted in support of Aqua PA's proposed  
5 rate increase for water and wastewater operations, respectively. They present the  
6 Company's pro forma revenue, expense and rate base data based on HTY (year ended  
7 March 31, 2021), FTY (year ending March 31, 2022), and FPFTY (year ending March 31,  
8 2023). Data for the HTY were obtained from the Company's books and records. For the  
9 FTY, revenues are based on the estimated number of customers served as of March 31,  
10 2022. Correspondingly, for the FPFTY, revenues are based on the estimated number of  
11 customers served as of March 31, 2023. Operating expenses have been similarly adjusted  
12 to reflect, for the most part, FTY and FPFTY-end conditions. Aqua PA's claimed rate base  
13 includes its estimated net Utility Plant in Service at March 31, 2022 and March 31, 2023.

14 **Q. Do you anticipate the need to make additional adjustments to the data set forth in**  
15 **Exhibits 1-A or 1-B through 1-G?**

16 A. Not at this time. However, in the course of this proceeding, further adjustments or revisions  
17 may be called for based upon, for example, substituting known and experienced data for  
18 estimates or correcting inadvertent errors.

19 **Q. Does Aqua PA propose to submit revised accounting exhibits to reflect any such**  
20 **adjustments or revisions?**

21 A. Yes. As it has consistently done in previous base rate proceedings, Aqua PA will submit,  
22 during the rebuttal phase of this case, exhibits to be identified as Exhibit 1-A (a) through  
23 Exhibit 1-G (a), which will correct any errors that may be identified, incorporate known

1 changes and adopt any other appropriate adjustments that come to the Company's attention  
2 during the litigation process.

3 **Q. You indicated that the Company submitted data for HTY, FTY and FPFTY. What**  
4 **data set will the Company principally rely upon to support its proposed revenue**  
5 **increase?**

6 A. The Company will rely principally upon the data for its FPFTY. This is the second base  
7 rate proceeding by the Company employing the FPFTY data since Act 11 of 2012 amended  
8 Section 315 of the Public Utility Code, 66 Pa.C.S. § 315, to allow a utility to utilize either  
9 a FTY or a FPFTY when filing a base rate case.

10 **Q. How were the FTY and FPFTY data that appear in Exhibits 1-A through 1-G**  
11 **developed?**

12 A. Exhibits 1-A through 1-G were, for the most part, developed in the same manner that Aqua  
13 PA has used in numerous prior cases, with the addition of data for a FPFTY ending March  
14 31, 2023. The actual results for the year ended March 31, 2021, as taken from Aqua PA's  
15 books and records, were used as the starting point for purposes of developing projected  
16 revenue and expense levels anticipated as of March 31, 2022 and March 31, 2023. Specific  
17 HTY, FTY, and FPFTY rate adjustments are set forth in the referenced exhibits. The FTY  
18 capital additions and retirements, described in the Rate Base section of my testimony, were  
19 added to the Utility Plant in Service at March 31, 2022 to arrive at the FTY amount.  
20 Correspondingly, the FPFTY capital additions and retirements were added to the Utility  
21 Plant in Service at March 31, 2023, to arrive at the FPFTY amount. The Utility Plant in  
22 Service, Accumulated Depreciation, Customer Advances for Construction ("CAC"), and  
23 Contributions In Aid Of Construction ("CIAC") for the HTY, FTY, and FPFTY are shown

1 in Exhibits 6-A through 6-G, Parts I, II, and III and summarized on Exhibits 1-A through  
2 1-G on Schedules G-1, and G-6, respectively.

3 **Q. Mr. Packer, please explain the data on Schedule A-2 of Exhibit 1-A through 1-G.**

4 A. Schedule A-2, of Exhibit 1-A and Exhibits 1-B through 1-G shows the number of  
5 customers served at March 31, 2021, and anticipated to be served at March 31, 2022, and  
6 March 31, 2023 by customer classification. Schedule A-2 of Exhibit 1-A indicates that the  
7 bills of most existing metered accounts and some newly-acquired metered accounts will be  
8 increased or decreased by Tariff Water-PA P.U.C. No. 2. In addition, Schedule A-2 of  
9 Exhibits 1-B through 1-G shows the bills of most metered accounts will be increased or  
10 decreased by Tariff Sewer-PA P.U.C. No. 2.

## 11 **VI. OPERATING EXPENSES**

### 12 **A. OVERVIEW OF ADJUSTMENTS**

13 **Q. What is shown on Schedule C-3 of Exhibits 1-A through 1-G?**

14 A. This schedule summarizes the adjustments to operating expenses under present rates, the  
15 details of which are shown on Schedules C-4.1 through C-10.1 in Exhibit 1-A and  
16 schedules C-4.1 through C-10.2 in Exhibits 1-B through 1-G. Most of these adjustments  
17 are self-explanatory. Additional supporting information is included in the back-up books  
18 entitled "Balance Sheet" and "Operating Expense". As shown in Schedule C-3 of Exhibit  
19 1-A, these adjustments result in a net decrease in HTY operating expenses of \$316,608, an  
20 increase in the FTY operating expenses of \$746,143 and an increase in the FPFTY  
21 operating expenses of \$2,317,270 for water service. As shown in Schedule C-3 of Exhibits  
22 1-B through 1-G, these adjustments result in a net increase in HTY operating expenses of  
23 \$1,814,006, in FTY operating expenses of \$919,858, and in FPFTY operating expenses of

1 \$605,356 for wastewater service. I would note that these same adjustments are carried  
 2 forward to the third, fifth, and seventh columns in Schedule A-1 of Exhibits 1-A and 1-B.

3 **Q. Mr. Packer, are you sponsoring each of the expense adjustments noted in Schedule**  
 4 **C-3 of Exhibit 1-A through 1-G?**

5 A. No. The witnesses who are responsible for the expense adjustments are as follows:

<b>EXPENSE ADJUSTMENT</b>	<b>SCHEDULE</b>	<b>RESPONSIBLE WITNESS</b>	<b>EXHIBIT(S)</b>
General Price Level Adjustment	C-4.1	C. Manning	1-A to 1-G
Uncollectible Accounts	C-4.2	E. Feeney	1-A to 1-G
Additional Cost of Serving Customers	C-4.3	E. Feeney	1-A
Rate Case Expense	C-4.4	C. Manning	1-A to 1-G
Payroll	C-4.5	E. Feeney	1-A to 1-G
Insurance Expense	C-4.6	C. Henkel	1-A to 1-G
Management Service & Sundry	C-4.7	W. Packer	1-A to 1-G
Customer Service & Sundry	C-4.8	W. Packer	1-A to 1-G
Miscellaneous Adjustment	C-4.9	C. Manning	1-A to 1-G
Specific Expenses Not Subject To Inflation	C-4.10	C. Manning	1-A to 1-G
Amortization of New Positive Acquisition Adjustments	C-5.1	E. Feeney	1-A
Purchased Power Expense	C-6.1	C. Henkel	1-A to 1-G
Chemical Expense	C-6.2	C. Henkel	1-A to 1-G
Purchased Water Expense	C-7.1	C. Henkel	1-A
Purchased Wastewater Treatment Expense	C-7.1	C. Henkel	1-B to 1-G
Water Production Adjustment	C-7.2	C. Henkel	1-A
Dredging Expense	C.7.3	C. Manning	1-A

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Employee Group Insurance	C-8.1	W. Packer	1-A
Employee Benefits	C-8.1	W. Packer	1-B to 1-G
Pension	C-8.2	W. Packer	1-A
Post-Retirement Benefits	C-8.3	W. Packer	1-A
401K	C-8.4	W. Packer	1-A
Remove Intracompany Benefits	C-8.5	W. Packer	1-A
Legal Expense	C-9.1	C. Manning	1-A
Eliminate North Heidelberg Expenses	C-9.1	W. Packer	1-B
Eliminate NAWC Lobbying Expense	C-9.2	C. Manning	1-A
Eliminate Belle Aire Acres Expense	C-10.1	W. Packer	1-A
Eliminate Twin Lakes Expenses	C-10.2	W. Packer	1-A

2 **Q. What services are provided by Aqua Services, Inc. (“Aqua Services”)?**

3 A. The services cover a full range of corporate support services, including, but not limited to;  
4 accounting and financial, administration, communications, corporate secretarial, customer  
5 service and billing, engineering, financial, fleet, human resources, information systems,  
6 operation, rates and regulatory, risk management, water quality, legal, and purchasing,  
7 contracts and sales of real estate. Please see the Attachment to OE6 for further details.

8 **Q. How are the costs of those services charged out to the subsidiaries?**

9 A. Aqua Services’ personnel keep time records and, where appropriate, their time and related  
10 overheads are directly assigned to the subsidiary for which they are working. Where costs  
11 are incurred in rendering services in common to multiple companies and cannot be  
12 identified and related exclusively to a particular company, they are allocated to all such  
13 companies based on the number of customers served by each company at the end of the  
14 immediately preceding calendar year.

1 **Q. Please explain the adjustments on Schedule 4.7 of Exhibits 1-A through 1-G entitled**  
2 **“Management Service & Sundry”.**

3 A. The amounts listed in Schedule C-4.7 of Exhibit 1-A summarize the Company’s estimated  
4 additional annual payroll expense and the increase in the Company portion of employee  
5 group insurance premiums of the Aqua Services employees whose time was charged to  
6 Aqua PA during the test year. The same data are shown in Schedule C-4.7 of Exhibits 1-  
7 B through 1-G for Aqua Services employees whose time was charged to Aqua Wastewater  
8 during the test year.

9 **Q. Please explain the adjustment to Aqua Customer Operations appearing on Schedule**  
10 **C-4.8 of Exhibits 1-A through 1-G.**

11 A. The amounts listed in Schedule C-4.8 of Exhibit 1-A summarize the Company’s estimated  
12 additional annual payroll expense and the increase in the Company portion of employee  
13 group insurance premiums of the Aqua Customer Operations employees whose time was  
14 charged to Aqua PA during the test year. The same data are shown in Schedule C-4.8 of  
15 Exhibits 1-B through 1-G for Aqua Customer Operations employees whose time was  
16 charged to Aqua Wastewater during the test year.

17 **Q. Please explain the adjustments appearing on Schedule C-8.1 of Exhibit 1-A for**  
18 **Employee Group Insurance.**

19 A. Aqua PA provides healthcare coverage to all of its full-time employees. The adjustment  
20 utilizes the coverage level associated with the Company’s present complement of  
21 authorized positions times the FTY contract prices, less the employee co-pay, a vacancy  
22 credit, and an adjustment for the portion not charged to operations.

1 **Q. Please explain the adjustment to Pension Expense as shown in Schedule C-8.2 of**  
2 **Exhibit 1-A.**

3 A. The adjustment set forth in Schedule C-8.2 was derived from an analysis performed by the  
4 Company's actuary, Willis Towers Watson, and is based on the forecasted 2021 and 2022  
5 actuarial results provided to the Company by Willis Towers Watson in September 2020.  
6 In this case, the Company is requesting a pension expense allowance of \$5.7 million (for  
7 both the FTY and FPFTY), which, in my judgment, is a reasonable estimate of the annual  
8 amount that the Company will contribute to its pension funds on an ongoing basis. From  
9 that figure, I deducted the portion expected to be capitalized and not charged to operating  
10 expense. The capitalization percentage is the same as that used in the Payroll Expense  
11 adjustment in Schedule C-4.5 of Exhibit 1-A. This resulted in a net rounded expense  
12 decrease of \$2.3 million for the FTY and no change in the FPFTY level.

13 **Q. Can you explain the Company's adjustment to Other Post-Employment Benefits or**  
14 **OPEBs recorded pursuant to Statement of Financial Accounting Standards ("SFAS")**  
15 **106 that is shown in Schedule C-8.3 in Exhibit 1-A?**

16 A. Yes. The Company's claim consists of two components: (1) the annual expense, which  
17 was developed by Willis Towers Watson; and (2) the amortization of the funding deficit or  
18 excess between FAS 106 and implicit authorized rate recovery over a three-year period  
19 beginning April 1, 2022 which is the beginning of the FPFTY. The summation of the two  
20 components identified above is reduced by the portion that is capitalized. The  
21 capitalization percentage is the same as that used in the Payroll Expense adjustment in  
22 Schedule C-4.5 of Exhibit 1-A. The annual expense for the Company's employees is based  
23 on the Actuarial Valuation Report dated September 2021 for the Company's Post

1 Retirement Welfare Plan, which has been submitted in response to filing data request OE-  
2 14.

3 **Q. Please explain the adjustment in Schedule C-8.4 of Exhibit 1-A.**

4 A. Employees hired after 2003 are no longer eligible for the pension and other post-  
5 employment healthcare defined benefits. However, the Company does offer these  
6 employees access to a defined contribution plan (“401K”) that receives a Company match.  
7 The Company’s claim for 401K expense is reduced by the portion that is capitalized. The  
8 capitalization percentage is the same as that used in the Payroll Expense adjustment  
9 Schedule C-4.5 of Exhibit 1-A.

10 **Q. Please explain the adjustments in Schedule C-8.5 of Exhibit 1-A and Schedule C-8.1**  
11 **of Exhibits 1-B through 1-G.**

12 A. These adjustments reduce operating expenses for water operations as presented in Schedule  
13 C-8.5 of Exhibit 1-A and increase expenses for wastewater operations as presented in  
14 Schedule C-8.1 of Exhibits 1-B through 1-G which is an allocation of employee benefits  
15 and other general overheads necessary to reflect an appropriate amount of expenses  
16 attributable to wastewater operations.

17 **B. ACQUISITIONS SINCE THE 2018 BASE RATE CASE**

18 **Q. Can you please generally comment on Aqua PA’s commitment to find solutions for**  
19 **troubled water and wastewater systems and the requested adjustments you have**  
20 **included in this proceeding to address them?**

21 A. Yes. The Company is currently operating three water and wastewater systems under  
22 receivership orders issued by the Commission. Aqua PA is committed to being a leader in  
23 promoting consolidation in the water and wastewater industry. In many instances, systems

1 become severely troubled and government officials, regulators and communities ask us for  
2 our assistance. These particular types of situation involve a significant amount of time,  
3 commitment and involvement from many departments requiring many layers of  
4 involvement within our Company. In addition, they invoke a significant amount of risk.  
5 However, without consolidation into a larger organization, they would not be viable. The  
6 Company remains committed to being a solution in the Commonwealth. I will further  
7 elaborate on this topic related to the Commission's determination of an appropriate equity  
8 return rate later in my testimony. Aqua PA's request for continued regulatory asset  
9 treatment is outlined below.

10 **Q. Please explain the Company's involvement with the Twin Lakes Utilities, Inc. ("Twin  
11 Lakes")?**

12 A. On January 14, 2021, the PUC issued an order in Docket No. P-2020-3020914 naming  
13 Aqua PA as the receiver for the Twin Lakes water system beginning January 15, 2021, and  
14 continuing through the pendency of a proceeding brought under Section 529 of the Public  
15 Utility Code, 66 Pa.C.S. § 529. Since then, Aqua PA has acted in the capacity directed by  
16 the PUC and continued to provide safe and adequate utility service to the 115 customers  
17 connected to the Twin Lakes water system. Aqua PA will continue in this capacity until  
18 the Commission renders a decision regarding the Twin Lakes water system.

19 **Q. Please explain Aqua PA's involvement with the North Heidelberg Sewer Company  
20 ("NHSC").**

21 A. Aqua PA agreed to become the receiver for NHSC during the pendency of a proceeding  
22 under Section 529. The Commission entered an Order dated February 9, 2018 at Docket

1 No. M-2018-2645983 identifying Aqua PA as the receiver and specifying certain duties  
2 for Aqua PA to perform during the Section 529 proceeding.

3 On March 5, 2018, Aqua PA assumed its role as receiver for NHSC and conducted  
4 site inspection of the facility. Aqua PA identified operational and capital issues that were  
5 detailed in status reports to filed with the Commission. Aqua PA will continue to operate  
6 and improve the system as receiver for NHSC until the system is acquired.

7 **Q. Please explain Aqua PA’s involvement with the James Black Water Service Company**  
8 **(“Belle Aire Acres”).**

9 A. On September 3, 2019, the PUC issued an order in Docket No. M-2019-3012563 naming  
10 Aqua PA as the receiver for this system beginning September 11, 2019 and continuing  
11 through the pendency of a Section 529 proceeding. Since then, the Aqua PA has acted in  
12 that capacity directed by the PUC and continued to provide safe and adequate utility  
13 service to the 19 customers connected to the Belle Aire Acres system until such time the  
14 system is acquired by a capable public utility.

15 **Q. Can you explain Aqua PA’s treatment in this case of these receivership systems and**  
16 **any requests thereto?**

17 A. Yes. For the purposes of this rate case Aqua PA has made adjustments to revenues,  
18 expenses, and rate base to remove these systems from the consideration of its proposed  
19 based rate increase. However, Aqua PA does request that it receive approval to continue  
20 the deferred accounting treatment it was authorized in each of the proceedings to which  
21 Aqua PA was named receiver. Aqua PA will continue the deferred accounting until its  
22 next base rate case, which is expected to be filed in 2024. It is expected that the status of  
23 these three receiverships will be resolved prior to that next base rate case. When it files its

1 next base rate case, Aqua PA will present claims for any return on or return of investments  
2 and expenses incurred by Aqua PA until said rate relief. Given the fact that these systems  
3 have not been acquired by Aqua PA, I believe this request is reasonable.

4 **C. DEFERRED ACCOUNTING TREATMENT OF BAD DEBT DUE TO THE**  
5 **COVID-19 PANDEMIC**

6 **Q. Are you familiar with the Commission’s May 13, 2020 Secretarial Letter regarding**  
7 **COVID-19 Cost Tracking and Creation of Regulatory Asset at Docket No. M-2020-**  
8 **3019775?**

9 A. Yes. The May 13, 2020 Secretarial Letter (“Secretarial Letter”) responded to Governor  
10 Wolf’s March 6, 2020 Proclamation of Disaster Emergency (“Emergency Proclamation”),  
11 which declared an emergency throughout the Commonwealth as a result of the COVID-19  
12 pandemic. The Emergency Proclamation authorized the suspension of regulatory statutes,  
13 rules or regulations to the extent compliance therewith would undermine emergency  
14 mitigation efforts. To that end, the Commission issued an “Emergency Order” at Docket  
15 No. M-2020-3019244 that it ratified on March 26, 2020. The Emergency Order declared  
16 a termination moratorium for public utility services. Recognizing the pandemic in general  
17 and the termination moratorium specifically would likely increase costs to utilities (e.g.,  
18 uncollectible expense), the Commission then issued a Secretarial Letter dated May 13,  
19 2020, that directed public utilities to “account for prudently incurred incremental  
20 extraordinary, nonrecurring expenses related to COVID-19, which result from compliance  
21 with the Commission’s moratorium suspension.” Utilities also were specifically  
22 authorized to create regulatory assets for incremental uncollectible expenses (related to  
23 COVID-19) above those embedded in base rates (since the Commission’s March 26, 2020  
24 Emergency Order).

1 **Q. Has Aqua PA experienced incremental COVID-19 expenses related to uncollectible**  
2 **accounts expense?**

3 A. Yes. As a result of the Commission's termination moratorium, the Company experienced  
4 increased levels of unpaid billings, *i.e.*, bad debt, which increased uncollectible accounts  
5 expense above the amount currently embedded in base rates. The uncollectible accounts  
6 costs included within the Company's rates for the HTY are \$2,425,823 for water and  
7 \$217,335 wastewater base systems.

8 **Q. How was the \$2,425,823 for water and \$217,335 for wastewater base systems'**  
9 **uncollectible accounts expense included in Aqua PA's current rates calculated?**

10 A. Aqua PA's calculations for uncollectible accounts expense were to normalize them to pre-  
11 COVID-19 levels, specifically, the rate of bad debt expense implicitly authorized in its  
12 2018 Base Rate Case.

13 **Q. Did Aqua PA create a regulatory asset for its incremental bad debt expense related**  
14 **to the COVID-19 pandemic?**

15 A. Yes. As a result of aging accounts receivable from customers, occasioned by the shut-off  
16 moratorium for most of 2020 and into early 2021, the Company recorded a regulatory asset  
17 of \$5,695,030.

18 **Q. How would the Company recover any future incremental COVID-19 expenses related**  
19 **to uncollectible accounts expense for years subsequent to the HTY?**

20 A. At the time of this filing, the Commonwealth of Pennsylvania continues to be impacted by  
21 the COVID-19 pandemic, and the Company is continuing to incur elevated levels of  
22 uncollectibles beyond the end of the HTY. As described above, the Company recorded a  
23 regulatory asset for the increased uncollectible accounts expense in excess of the amount

1 already included in rates for the HTY. Aqua PA is proposing that it receive continued  
 2 authorization to defer incremental expenses realized over and above its recovery levels  
 3 such that they can be reviewed for reasonableness and recovered in its next base rate case  
 4 expected to be filed in 2024.

5 **VII. DEPRECIATION, TAXES AND OTHER ITEMS**

6 **Q. The next series of adjustments to Aqua PA's Statement of Income is found in**  
 7 **Schedules D-1 through D-2.5, E-1 through E-4, and F-1 through F-2 of Exhibits 1-A**  
 8 **through 1-G. Who are the responsible witnesses for these adjustments?**

9 A. The responsible witnesses for the adjustments are as follows:

<b>ADJUSTMENT</b>	<b>SCHEDULE</b>	<b>RESPONSIBLE WITNESS</b>	<b>EXHIBIT(S)</b>
Summary of Depreciation	D-1	E. Feeney & J. Spanos	1-A to 1-G
Summary of Adjustments To Taxes Other Than Income	D-2	E. Feeney	1-A to 1-G
PUC - General Assessment	D-2.1	E. Feeney	1-A to 1-G
OCA and OSBA - General Assessment	D-2.2	E. Feeney	1-A to 1-G
Public Utility Realty Tax	D-2.3	E. Feeney	1-A to 1-G
Pennsylvania Property Tax	D-2.4	E. Feeney	1-A to 1-G
Payroll Taxes	D-2.5	E. Feeney	1-A to 1-G
Interest on Long-Term Debt	E-1	W. Packer	1-A to 1-G
Amortization of Debt Discount and Expense	E-2	W. Packer	1-A to 1-G
Other Interest Charges	E-3	W. Packer	1-A to 1-G
Interest During Construction	E-4	W. Packer	1-A to 1-G
Summary of Adjustment to Income Taxes	F-1	C. Saball	1-A to 1-G

1

Computation of Federal and  
State Income Taxes Under  
Present and Proposed Rates

F-2

C. Saball

1-A to 1-G

2 **Q. Please explain your calculation of interest on long-term debt that appears on Schedule**  
3 **E-1 of Exhibits 1-A and 1-B through 1-G.**

4 A. A calculation is made to synchronize the interest expense applicable to the long-term debt  
5 portion with the original cost rate base as of March 31, 2023. I have used the same capital  
6 structure as recommended by Mr. Moul for rate of return purposes (see AP Statement No.  
7 7 and Exhibit 4). The projected weighted cost rate of long-term debt (for both water and  
8 wastewater) as of March 31, 2022 and March 31, 2023 is 4.01% and 4.00%, respectively.  
9 The synchronized interest was used to adjust the interest expense recorded for the year  
10 ended March 31, 2021 and the resulting adjustment carried forward to Schedule A-1 of  
11 Exhibit 1-A and 1-B through 1-G.

12 **Q. The next adjustment is for amortization of debt discount and expense appearing on**  
13 **Schedule E-2 of Exhibit 1-A and 1-B through 1-G. Please explain this adjustment.**

14 A. This adjustment removes those costs because, consistent with the way these costs are  
15 reflected for ratemaking in Pennsylvania, their recovery has been reflected in the yield-to-  
16 maturity calculation of Aqua PA's claimed long-term debt cost rate.

17 **Q. Schedule E-3 of Exhibits 1-A and 1-B through 1-G reflects decreases in other interest**  
18 **charges. Please explain this adjustment.**

19 A. Other interest charges of the year ending March 31, 2021 were principally for funds  
20 borrowed through bank loans to finance Aqua PA's capital expenditures. The bank loans

1 outstanding are anticipated to be refinanced with long-term debt prior to the end of the  
2 FTY. Therefore, the interest on bank loans has been eliminated.

3 **Q. The last adjustment, on Schedule E-4 of Exhibits 1-A and 1-B through 1-G, is for**  
4 **interest during construction. Please explain this adjustment.**

5 A. For financial accounting purposes, interest during construction is recorded as income.  
6 However, for ratemaking purposes, it is reflected in the allowance for funds used during  
7 construction (“AFUDC”) and included in the original cost of utility plant. This adjustment  
8 is made to eliminate interest during construction as income and is consistent with the  
9 treatment accorded this item in Aqua PA’s previous base rate cases.

10 **VIII. RATE BASE**

11 **Q. Please describe the data presented in Schedule G-1 of Exhibit 1-A through 1-G.**

12 A. Those pages show the Aqua PA’s claimed original cost measure of value as anticipated  
13 under present and proposed rates for the FTY and FPFTY.

14 **Q. Mr. Packer, Schedules G-2 through G-9 in Exhibits 1-A through 1-G set forth various**  
15 **components of the Company’s rate base claim. Please identify the responsible**  
16 **witnesses for these items.**

17 A. Certainly. Witness responsibilities are as follows:

<b>ADJUSTMENT</b>	<b>SCHEDULE</b>	<b>RESPONSIBLE WITNESS</b>	<b>EXHIBIT(S)</b>
Utility Plant in Service & Accumulated Depreciation	G-2	E. Feeney & J. Spanos	1-A through 1-G
Utility Plant Acquisition Adjustments	G-3	E. Feeney	1-A and 1-B
Materials & Supplies	G-4	W. Packer	1-A and 1-B
Cash Working Capital	G-5	W. Packer	1-A to 1-G

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CIAC & CAC	G-6	E. Feeney & J. Spanos	1-A to 1-G
Deferred Income Taxes	G-7	C. Saball	1-A to 1-G

**Q. Please explain the \$7,672,303 addition in Exhibit 1-A for materials and supplies.**

A. As shown in Schedule G-4 of Exhibit 1-A, this amount was developed by averaging the monthly balances in the Materials and Supplies account for the thirteen months ended March 31, 2021. While Exhibit 1-B contains a schedule G-4, Aqua PA does not maintain a significant amount of standby materials and supplies for wastewater operations and, therefore, material and supplies are expensed as they are purchased.

**Q. Has Aqua PA included a claim for cash working capital in rate base?**

A. Yes. The results of Aqua PA’s lead/lag study yielded a positive result, thus Aqua PA, consistent with Commission practice, is making a claim for cash working capital. The calculations and schedules are included in Exhibit 1-A and 1-B, Schedules G-5.1, G-5.2, G-5.3, and G-5.4.

**Q. Please provide an overview of Aqua PA’s system improvement project that is included in the case (the “SIP”).**

A. Aqua PA desires to continue to improve customer service, network reliability, safety, improve current capabilities, and add multiple channels for a better customer service experience. Due to the nature of the water business and consolidation over the decades, many of the Aqua PA business systems are not fully integrated. These systems are also reaching the end of their useful life and will no longer be supported by the companies who own and service the software. So, as a matter of practicality at a minimum, investments must be made to move to the next level of software to support these desired business

1 improvements. Since Aqua PA must invest in new software systems, it would rather  
2 implement a proven, fully integrated system.

3 SAP is a robust system that is expected to become the backbone of the Essential  
4 Utilities companies, including Peoples Gas. Roughly 80% of the largest utilities use this  
5 software. In terms of excellence, it has been the leader for the 13<sup>th</sup> consecutive time in  
6 Gartners quadrant. Over 800 utilities worldwide use SAP's customer management and  
7 billing modules. The SIP project will create a new business software platform for Aqua  
8 PA and allow it to retire or eliminate dependency on old, unsupported software modules  
9 by a host of different software manufacturers

10 **Q. What are some of the reasons Aqua PA chose SAP?**

11 A. SAP has several characteristics that are inherently attractive to Aqua PA, including: the  
12 system is expandable to allow for growth of the enterprise, which comfortably supports a  
13 multi-company and multi-utility corporate framework; the system easily integrates with  
14 other commercially sold software, as well as custom developed applications; the system  
15 has significant number of proven implementations at other utilities; and the system shows  
16 a commitment to supporting utility-type businesses.

## 17 IX. RATE DESIGN

18 **Q. Please provide an overview of Aqua PA's rate design proposal in this case.**

19 A. The majority of Aqua PA's water customers are charged the rates applicable to its Main  
20 Division, which is designated Rate Zone 1. Over the years, as Aqua PA has filed rate cases,  
21 divisions that were not being charged rates at the same level as the Main Division were  
22 gradually equalized with Main Division rates. Sometimes, this has been done over one or  
23 two rate cases; in other circumstances, it was appropriate to achieve rate equalization over

1 several rate cases. In this case, Aqua PA is proposing to move several divisions equal or  
2 closer to Main Division rates. For water operations, Aqua PA has continued to make  
3 progress consolidating the rates for those service areas that represent acquired systems into  
4 the Main Division.

5 Aqua PA proposes a similar model for its wastewater rates with the intent of  
6 gradually grouping and consolidating divisions towards Rate Zones. Aqua PA witness  
7 Constance Heppenstall provides an explanation of the Company's water and wastewater  
8 rate design and cost of service allocation studies in AP Statement No. 5 and the  
9 accompanying exhibits that she sponsors.

#### 10 X. CAPITAL STRUCTURE RATIOS

11 **Q. Mr. Moul's proposed rate of return, as set forth in Exhibit 4-A, is based on a FPFTY-**  
12 **end capital structure consisting of 46.08% long-term debt and 53.92% common**  
13 **equity. How were these figures derived?**

14 A. Consistent with past practice, the starting point was Aqua PA's actual capitalization at the  
15 end of the HTY. The respective amounts of long-term debt and common equity at March  
16 31, 2021 were then adjusted to reflect anticipated changes during the FTY and FPFTY. In  
17 sum, Aqua PA's total permanent capitalization is expected to increase by approximately  
18 \$533 million (net of depreciation) over that period.

19 **Q. What accounts for that increase?**

20 A. There are several factors. Aqua PA's long-term debt balance is anticipated to grow by  
21 nearly \$163 million as a result of the issuance of new and the retirement of existing debt  
22 series. The net effect of these financings is a slight decrease in Aqua PA's embedded long-  
23 term debt cost rate from 4.04% to 4.00%. Aqua PA's common equity is projected to

1 increase by \$370 million, by virtue of common equity infusions from its parent, Essential  
2 Utilities and FPFTY retained earnings. Details regarding all of these changes are provided  
3 on Schedule 5 of Exhibit 4-A. Total capitalization and total rate base are both projected to  
4 be approximately \$4.2 billion by the end of the FPFTY.

5 **Q. Please describe Aqua PA's overall long-term cost of debt since the 2018 Base Rate**  
6 **Case.**

7 A. As I previously explained, Aqua PA has taken advantage of the low interest rate  
8 environment that prevailed since its last base rate case to reduce its embedded long-term  
9 debt cost. At the conclusion of the 2018 Base Rate Case, Aqua PA's overall average cost  
10 of long-term debt was 4.43%. Currently, that cost rate is 4.04% and is projected to become  
11 4.00% by the end of the FPFTY. This is a difference of .43%, which provides tangible  
12 savings to customers, as I explained earlier in my testimony, of approximately \$8.3 million  
13 annually.

#### 14 **XI. RETURN ON EQUITY CONSIDERATIONS**

15 **Q. Please explain how Aqua PA derived its requested return on equity allowance in this**  
16 **filing.**

17 A. In AP Statement No. 7, Mr. Moul has recommended a return on common equity ("ROE")  
18 of at least 10.75%. His testimony and Exhibit 4-A offer a through explanation of his  
19 calculation methodology. The various methodologies used by Mr. Moul produced an ROE  
20 range of 10.50% to 13.40%. Looking only at the Discounted Cash Flow ("DCF") and Risk  
21 Premium ("RP") methods (which is reflective of past Commission practice) produces a  
22 narrower range of 10.50%-11.78%. Based on this range, Mr. Moul observes that the ROE  
23 being proposed in the calculation of the cost of service at 10.75% is notably at the lower

1 end of the range he analyzed. As observed by Mr. Moul, an ROE of 10.75% is utilized  
2 for the purposes of calculating the Company's overall revenue requirement in this instant  
3 proceeding, which is certainly reasonable and again, within Mr. Moul's range of ROEs I  
4 described earlier.

5 **Q. Please explain why you believe Aqua PA is entitled to an equity allowance that**  
6 **recognizes exemplary managerial performance.**

7 A. Aqua PA has consistently provided its customers with safe and reliable water and  
8 wastewater service at reasonable rates. This is the product of a mission based, dedicated,  
9 and knowledgeable workforce that is constantly seeking to improve quality and control  
10 costs. Aqua PA is committed to providing safe and reliable service, the community and  
11 the environment. Aqua PA continues to accept the challenge of acquiring troubled or  
12 weaker water and wastewater systems in an effort to promote the Commission's goal of  
13 regionalization. In addition, Aqua PA has had a long-standing program to facilitate the  
14 payment of water and wastewater bills by its low-income residential customers. In this  
15 case, and as more fully explained by Witness Rita Black (Aqua Statement No. 10), Aqua  
16 PA has proposed a more comprehensive plan for its low-income residential customers.  
17 Aqua PA is also helping the Commonwealth deal with the problems created by small,  
18 troubled or non-viable wastewater systems in its acquisition of Phoenixville Water and by  
19 acting as a receiver to three other systems I described earlier. Aqua PA is an acknowledged  
20 leader in the water utility and wastewater utility industries and, in my opinion, its  
21 exemplary performance should be recognized through the equity return rate authorized in  
22 this proceeding. Indeed, this recognition reinforces the Aqua PA's own goal of

1 continuously seeking ways of providing better service at reasonable cost and also provides  
2 an example that creates incentives for other utilities to do the same.

3 **Q. Could you be more specific with respect to the measures undertaken by Aqua PA that**  
4 **you believe should enter into the Commission’s determination of an appropriate**  
5 **equity return rate?**

6 A. In my view, the Company’s performance in the following areas fully supports a return of  
7 at least 10.75%:

8 **1. Water Quality**

9 Aqua PA has achieved significant compliance with all existing Federal and State  
10 drinking water standards in its water systems in Pennsylvania. Aqua PA provides filtration  
11 for all surface water sources and disinfection for all ground water sources and specialized  
12 treatment for specific contaminants where necessary.

13 Aqua PA has been a leader in the industry on a number of fronts. In an effort to  
14 proactively address customer owned service lines, the Company filed its lead service line  
15 application under Act 120 of 2018, P.L. 738, No. 120, prior to the issuance of the  
16 Commission’s final regulations promulgated pursuant to Section 1311(b)(2) of the Public  
17 Utility Code, 66 Pa. C.S. § 1311(b)(2), in order to help customers address this issue sooner.  
18 The Company successfully worked with stakeholders in an expedited fashion to help  
19 address customer-owned lead service lines in one particular community where this issue  
20 occurred. Aqua PA had recently completed a main replacement project in the City of  
21 Farrell, and, during that project, the Company identified customer-owned service line  
22 material as lead. Due to the possible issues of performing a partial replacement of a lead  
23 service line, Aqua PA left the existing main, existing Company owned service line, and

1 existing customer owned service line servicing the structure in place alongside the newly  
2 installed main. This was done to avoid disruption of the existing lead service line. Since  
3 Aqua PA's application has been granted, the Company is moving forward to address this  
4 issue.

5 In addition, Aqua PA continues to be a leader when it comes to addressing emerging  
6 contaminants. Managing emerging contaminants is a continuous process as science  
7 improves our ability to detect and understand the impacts of chemicals in use for decades  
8 as well as newly developed chemicals. In the past, the Company reviewed chemicals such  
9 as pesticides, pharmaceuticals, and personal care products. Currently, our team is  
10 conducting and monitoring scientific activities for per and poly-fluoro alkyl substances  
11 ("PFAS"), cyanotoxins, lead and manganese. Our team continues to lead the industry in  
12 transparency by publishing testing results on a special website dedicated to this topic. In  
13 February 2020, Aqua PA announced that it is committed to installing mitigation technology  
14 at water treatment facilities where sources of water exceed 13 parts per trillion ("ppt") for  
15 any PFAS substance. Setting a company-wide standard of 13 ppt, well below the United  
16 States Environmental Protection Agency's ("EPA") non-enforceable health advisory level  
17 of 70 ppt is a significant benefit to our customers. I also highlight that Aqua PA worked  
18 proactively with local legislators to obtain a Penn Vest grant in the amount of \$5,238,600  
19 for the North Hills well station which addressed PFAS treatment.

20 Aqua PA operates a central water-quality laboratory in Bryn Mawr that conducts  
21 hundreds of thousands of tests annually on water samples from Aqua PA's systems across  
22 the Commonwealth. The laboratory has a national reputation in the field of testing for  
23 trace levels of compounds. In fact, the laboratory operates testing equipment that can detect

1 down to the part per trillion level. One part per trillion is the equivalent of one grain of  
2 sand in an Olympic size swimming pool. Customer water quality is incredibly important  
3 to Aqua PA. Therefore, Aqua PA maintains a Technical Services Department that is  
4 located in the laboratory and is staffed to handle water quality complaints exclusively.  
5 Having this staff with ready access to the resources of Aqua PA's central laboratory allows  
6 for prompt response, investigations, and resolution of water quality complaints.

## 7 **2. Wastewater Treatment Compliance**

8 As I noted earlier, Aqua PA has been growing its wastewater utility service for over  
9 the last twenty years through the acquisition of systems that come in various states of  
10 compliance, need for repair and attention. It has demonstrated that it can be the solution  
11 to ever growing wastewater utility challenges and continues to make improvements to  
12 wastewater utility infrastructure as reflected by the capital additions included in its utility  
13 plant in service in this case, which include some larger-scale treatment plant upgrades.

14 The Company has a team of wastewater managers and operators that maintain and  
15 safely operate these wastewater systems. Our wastewater team has a deep bench of prior  
16 experience, including running the Combined Sewer Overflow ("CSO") program and Long  
17 Term Control Plan for the City of Wilmington Delaware, running the Philadelphia Long  
18 Term CSO Program and Wet Weather Programs for the City of Philadelphia as well as  
19 industrial pretreatment and combined sewer system and management of consent orders and  
20 operating and managing the 20 MGD City of Scranton, wastewater treatment plant, which  
21 includes a CSO collection system.

1           **3.     System Reliability**

2           The goal of reliable utility service is to achieve 24-hour per day uninterrupted  
3 service to all customers and, especially, to customers with specific health care and public  
4 safety needs such as hospitals, outpatient surgical centers, schools, and public and private  
5 fire protection systems.

6           The facilities that Aqua PA has installed over the years, combined with its  
7 professional operations and maintenance staff, assure that customers’ needs are met, and  
8 that uninterrupted service is provided. These proactive measures include, but are not  
9 limited to:

- 10           • At the Crum Water Plant, the Company is replacing the raw water chemical  
11 application vault due to deterioration from age, safety concerns for personnel that  
12 must enter the vault to maintain the infrastructure, and to return reliability to this  
13 key process point. If any of the multiple chemical application systems fail, it would  
14 cause a material interruption of the treatment plant, which supplies 18 million  
15 gallons per day of drinking water.
- 16           • The Company is reinforcing the security of our Supervisory Control and Data  
17 Acquisition (“SCADA”) servers by moving them to a new off-site location where  
18 both physical security and cybersecurity is improved. The SCADA system is a  
19 critical tool in the operation of our water plants, wells, and storage tanks. In 2021  
20 Aqua PA will design a SCADA server network for installation in an off-site data  
21 center alongside our Information Technology equipment. We will purchase  
22 hardware for installation in 2022. Our current servers will be re-purposed as cold  
23 standby in case of an unlikely data center failure.

- 1           • At the Ridley Water Plant, the Company replaced the equipment that collects and  
2           moves settled solids captured in the pre-treatment process. The existing equipment  
3           was ineffective due to wear and tear over time resulting in an accumulation of solids  
4           that jeopardizes downstream treatment processes.
- 5           • At the Roaring Creek Water Plant, a major replacement of the HVAC system was  
6           done to alleviate issues with overheating electrical room equipment that can lead to  
7           equipment function issues and shorten equipment useful life. Related air and  
8           heating improvements corrected poor air flow, eliminated personnel and equipment  
9           hazards from real and potential failures, and improved overall working  
10          environment for operators and improved energy efficiency with new controls and  
11          motors.
- 12          • At the Crum Water Plant, the Company is replacing the filter media, filter bottom  
13          underdrain, wash water troughs, and filter control valves to restore them to  
14          operational reliability to meet PADEP regulations. The filter media depth needed  
15          to be lowered to avoid loss of media in the backwash high rate cycle which over  
16          time would decrease the effectiveness of the filters to remove particulate matter and  
17          cause increased backwashing of filters. The increase in backwashing uses more  
18          treated water that could be used instead to be sent to our customers.

19           In each case these, and other, improvements have enhanced the efficiency,  
20          reliability, and the quality of service to customers. Aqua PA has, and will, continue to  
21          invest in its infrastructure to improve its systems.

22  
23

1           **4.     Cost Containment**

2           Aqua PA continually looks for ways to control operating costs. While the  
3           acquisitions over the past several years have contributed to the overall gains in  
4           productivity, there has also been a conscious effort by management to review staffing needs  
5           and operating procedures with the purpose of improving service while controlling costs.  
6           To this end, Aqua PA reviews its workforce complement and cost drivers on a consistent  
7           basis. Lastly, it is worth noting again that Aqua PA’s efforts have produced the result of a  
8           less than 1.3% compound annual growth rate in O&M expense since its last water rate case.

9           As I previously noted, Aqua PA has proactively taken advantage of refinancing  
10          opportunities and lowered interest rates on its long-term debt from a weighted cost of 8.5%  
11          at year-end 1994 to 4.00% as proposed in this filing.

12          **5.     Rates**

13          Aqua PA’s rates have been cited by Standard & Poor’s as one of the Aqua PA’s  
14          strengths. Aqua PA is the second largest water and wastewater utility in the  
15          Commonwealth. Given the longstanding policies of the PUC regarding single tariff  
16          pricing, regionalization and consolidation, and a well-regarded regulatory compact, Aqua  
17          PA has been able leverage its size and operational abilities to develop rates that are just  
18          and reasonable. At the same time, the Company is able to prudently invest needed capital  
19          in the utility infrastructure serving its customers.

20          **6.     COVID-19 Response**

21          The year of 2020 was one that tested our Company in multiple ways due to the  
22          COVID-19 pandemic. The Company remained focused and continued to fulfill our  
23          mission of providing safe and reliable service. Key to this success was the safety of our

1 field staff that continued to operate the water and wastewater treatment plants throughout  
2 the pandemic, as well as distribution crews. Aqua PA also proactively implemented  
3 changes to its low-income program and policies to help our customers who may have been  
4 impacted by the pandemic. In addition to providing credits to low-income customers  
5 impacted by the pandemic, the Company increased flexibility for the Helping Hand  
6 program and in regard to payment arrangements. As a utility service provider, the  
7 Company continued to provide an essential service during the pandemic, without any  
8 interruption of service, while providing a safe workplace for our essential employees.

9 Last year during the COVID-19 pandemic, Aqua PA also assisted in providing  
10 50,000 masks to local water and sewer purveyors throughout the Commonwealth. Through  
11 requests made by Pennsylvania's Water/Wastewater Agency Response Network  
12 ("PaWARN"), Aqua PA made deliveries of masks to the Chester Water Authority and  
13 Philadelphia Water Department, and coordinated requests and pickups for masks at our  
14 Willow Grove and Springfield Operation Centers. Aqua PA helped PaWARN distribute  
15 cloth face masks to Pennsylvania's Water/Wastewater sector during the pandemic. In fact,  
16 PaWARN thanked and named Aqua PA water and wastewater utility personnel in helping  
17 Pennsylvania's Southeast Region, including the City of Philadelphia be better protected  
18 against COVID-19.

## 19 **7. Customer Service**

20 For many years, Aqua PA has provided its customers with a high level of customer  
21 service. Continuing a long history of excellence, Aqua PA recently rolled out technology  
22 designed to improve our customer's experience for viewing service interruptions. A  
23 disruption to our customers includes anytime the quality, pressure, or quantity of their

1 service is impacted, whether it be planned, through a main replacement project, or  
2 unplanned, through a repair to our water mains or source supply failures.

3 Our team developed a process for displaying disruptions on Aqua PA's external  
4 website, with an interactive map-based solution. The new experience, and what our  
5 customers will have access to on Aqua PA's externally facing, public website, will involve  
6 an external GIS (Geographical Information System) Disruption Map that will allow them  
7 to see activity in their service area by simply entering a street address, city, zip code, or  
8 by using their smart phone's location. The map website will be updated every hour to  
9 provide our customers with the latest updates on disruptions to their service.

## 10 **8. Acquisition of Troubled Water and Wastewater Systems**

11 In the last twenty years, Aqua PA has acquired many community water systems  
12 previously owned and operated by entities within the public and private (private investor-  
13 owned or homeowners' associations) sectors. While several of these systems were  
14 included on the Commission's troubled water company list, a majority, if not all of those  
15 systems, served less than 3,300 connections and exhibited problems that would have also  
16 qualified them to be included on the Commission's list. Upon acquiring these systems,  
17 Aqua PA made immediate improvements in quality, supply and customer service. At the  
18 same time, existing customers have received the benefits of improved efficiency and the  
19 spreading of fixed costs over a larger customer base. From a more macro viewpoint, the  
20 regionalization of water and wastewater systems will allow for consistent, reliable service,  
21 which, in turn, improves the economics and quality of life of the regions the Company  
22 serves.

1 Aqua PA intends to continue to acquire systems within its existing 32-county  
2 service area in Pennsylvania as well as adjacent areas in order to provide solutions to the  
3 long-term water supply and wastewater treatment requirements of an even larger portion  
4 of Pennsylvania. For consideration in this case is the Company’s acquisition of the  
5 Phoenixville Borough water system assets. In addition, the Company has agreed to be the  
6 receiver for NHSC, Twin Lakes, and Belle Aire Acres.

7 **9. A Helping Hand – Low-Income Customer Assistance Program**

8 Aqua PA implemented a program in 1994 designed to facilitate the payment of  
9 water bills by its low-income residential customers. This program is called “A Helping  
10 Hand.” It is the first program of its kind offered by any investor-owned water utility in  
11 Pennsylvania and has been looked at as a model by other utilities. This program provides  
12 water audits, appropriate repairs where necessary and, upon the identification of qualified  
13 customers, the partial forgiveness of prior arrearages or a grant. In the current proceeding,  
14 Aqua PA has carefully designed a more comprehensive approach to address affordability  
15 for low-income customers. When considering those living in poverty, basic needs such as  
16 rent, food and utilities can be difficult to manage.

17 To increase affordability for participants in our proposed program, Aqua PA is  
18 proposing a tiered structure, similar to the structure in place at the Peoples Companies, that  
19 provides the largest benefit to those with the least income. Three tiers are proposed: 100%  
20 of the Federal Poverty Level (“FPL”), 150% FPL and 200% FPL in order to provide the  
21 highest level of discounts to those in the first tier and gradually reduce the discounts in the  
22 other tiers. The proposed Customer Assistance Program (“CAP”) will be available to both  
23 water and wastewater customers. In addition, all participants will receive a discount

1 towards their base facility customer charge. Based on income, some participants will also  
2 receive a discount on their consumption of the first 2,000 gallons.

### 3 **10. Infrastructure Rehabilitation**

4 Twenty-five years ago, Aqua PA embarked on a substantial capital program  
5 intended to ensure long-term viability of its underground piping infrastructure through  
6 significant annual investments in infrastructure rehabilitation (main replacements). Having  
7 previously rehabilitated less than 0.1% of its infrastructure on an annual basis, Aqua PA  
8 was then on a schedule to rehabilitate its aging system over approximately 1,000 years.  
9 Recognizing that the life of a pipe approximated 100 years, it was imperative that the  
10 infrastructure that was installed during Aqua PA's first 100 years of service be replaced  
11 during its second 100 years of service. Since that time, Aqua PA has dramatically increased  
12 its infrastructure rehabilitation program. Unlike numerous other water and wastewater  
13 systems in the country, Aqua PA has positioned itself well to ensure continuity of service  
14 through a sound utility infrastructure for the foreseeable future.

### 15 **11. Tax Programs**

16 Aqua PA takes advantage of key tax programs to ensure the lowest possible cost of  
17 service for its customers. Over the years, Aqua PA has continually taken advantage of  
18 bonus tax depreciation whenever it was available to generate key tax savings, which are  
19 then incorporated into its base rate calculations to reflect the associated tax-book timing  
20 difference as a source of cost-free capital to support Aqua PA's infrastructure capital  
21 investments. In addition, consistent with the terms of the settlement of the 2018 Base  
22 Rate Case, Aqua PA is using tax repair deductions and flow-through accounting to reduce  
23 its effective tax rate in this case and provide significant current benefits to its customers.

1           **12.   Environmentally Friendly Initiatives**

2           Energy continues to be the single biggest purchased expense that Aqua PA  
3 manages. To minimize its purchased power costs and improve our carbon footprint, Aqua  
4 PA considers the GHG composition of a given energy supply when procuring power in  
5 addition to power cost. Over the last several years, Aqua PA has been able to lower its  
6 power costs and reduce its carbon footprint through active bidding. From 2020 to 2022,  
7 Aqua PA is able to save \$600,000 annually in electric supply costs, and in 2022 our  
8 supplied power will be 100% renewable. Future contracts will be approached in the same  
9 manner, and Aqua PA will continue to actively bid contracts and secure 100% renewable  
10 energy to support the reduction of Aqua PA’s carbon footprint.

- 11           • Aqua PA has operated two solar fields since 2011, which produce enough power  
12 annually to power over 300 homes, reducing the Company’s need to purchase  
13 power by 8% at our Ingram’s Mills and Pickering Water Plant complexes in  
14 Southeast PA. With the increased value in the last two years of Pennsylvania Solar  
15 Renewable Energy Certificates (“SRECs”), the sale of generated SRECs from solar  
16 energy production offsets the required O&M costs of the solar fields to allow  
17 operations to be financially self-sustaining.
- 18           • Compressed Natural Gas (“CNG”) as a vehicle fuel for heavy duty fleet provides  
19 for a lower carbon energy source and at a lower cost. CNG accounts for over 25%  
20 of miles driven by our heavy-duty fleet.
- 21           • Lowering energy costs while reducing our carbon footprint, and increasing our  
22 energy efficiency, plays a central part in Aqua PA’s goals. Through the use of  
23 Aqua PA’s innovative dashboard tools, metrics on energy intensity by individual

1 assets and systems can be analyzed for energy related trends and for comparison to  
2 like assets to identify energy outliers. This process is already paying dividends as  
3 asset rehabilitation is being prioritized by the magnitude for energy improvement.  
4 Not only does this prioritized rehabilitation produce energy savings from improving  
5 and right sizing assets, the utility energy efficiency rebates received from  
6 rehabilitation of assets helped off-set the project cost. A recent effort at the Hall  
7 Rd Well Station in 2020 resulted in an annual savings of near \$30,000 in electric  
8 costs and garnered a \$21,000 energy efficiency rebate from PECO Energy  
9 Company.

- 10 • Aqua PA continues to participate in electrical Peak Reduction programs from our  
11 retail electrical supplier and previously through Pennsylvania Act 129. During  
12 peak energy usage periods, the Company reduced its demand load on the grid by 3-  
13 Megawatts at eight water treatment plant across the state, which helped to stabilize  
14 the electrical grid during peak events and also provides us a financial incentive  
15 through performance payments and the ability to obtain low cost of electric in the  
16 future.
- 17 • In addition, Aqua PA made its first disclosure of our climate impact in August 2018,  
18 and in 2020 the Company improved its rating to a B- through the internationally  
19 based CDP in disclosing our climate risks and impacts. The CDP disclosure  
20 process provides us the framework to reduce our energy demand and environmental  
21 impact in a cost prudent manner.

1           **13. Aqua PA is recognized in Pennsylvania for excellence in a key area of**  
2           **operations. Following are examples of awards Aqua PA has received since its**  
3           **last rate filing**

4           Aqua PA’s wastewater treatment plant in Upper Providence Township, Delaware  
5           County received the Phase III Directors Award from the Partnership for Clean Water, a  
6           global optimization and recognition program for wastewater utilities developed by the  
7           American Water Works Association (“AWWA”) and other organizations to guide  
8           wastewater utilities towards preserving environmental water quality by optimizing system  
9           operations. The plant provides wastewater treatment to the Borough of Media. Aqua PA’s  
10          Media wastewater plant team is one of a select group of organizations presented with the  
11          Directors Award based on their completion of the self-assessment and peer-review phase  
12          of the Partnership for Clean Water program. This included a comprehensive evaluation of  
13          treatment plant operations and performance, identification of performance-limiting factors,  
14          and the development of action plans to achieve optimization. Aqua PA’s Media wastewater  
15          plant is the tenth wastewater treatment plant in the country and the first in Pennsylvania to  
16          achieve this recognition. More than 55 utility subscribers are committed to the Partnership  
17          for Clean Water’s goals of protecting public health by optimizing wastewater system  
18          operations and achieving operational excellence in wastewater treatment. Partnership  
19          members participate in a rigorous self-assessment and peer-review process developed by  
20          wastewater utility optimization experts and are recognized for their commitment to  
21          protecting public health for their communities.

22          All eleven of Aqua PA’s surface water treatment plants in Pennsylvania are  
23          enrolled in the Partnership for Safe Water, a program developed by the U.S. Environmental

1 Protection Agency, AWWA and other organizations to guide water utilities towards  
2 improving drinking water quality by optimizing system operations. Four of Aqua PA's  
3 surface water treatment plants have achieved the Phase III Directors Award or higher  
4 partnership honors. AWWA is the largest organization of water supply professionals in  
5 the world.

6 **XII. SATISFACTION OF COMMITMENTS FROM THE COMPANY'S 2018 BASE**  
7 **RATE CASE SETTLEMENT**

8 **Q. Has Aqua PA satisfied the commitments it made in the Joint Petition for Settlement**  
9 **approved in the 2018 Base Rate Case?**

10 A. Yes, it has. Pages 6 through 25 of the settlement agreement in that case set forth various  
11 commitments made by Aqua PA. To the best of my knowledge, Aqua PA has satisfied all  
12 of these commitments.

13 **XIII. CONCLUSION**

14 **Q. Mr. Packer, please summarize why you believe the Commission should grant Aqua**  
15 **PA's requested rate increase.**

16 A. Overall, Aqua PA is a mission-based utility focused on providing safe and reliable service  
17 to its customers. It consistently makes prudent and necessary investments in its  
18 infrastructure to serve customers. With the approval of an adequate ROE, Aqua PA will  
19 be able to continue to address the formidable tasks of rehabilitating its infrastructure,  
20 acquiring and repairing aging and troubled systems, and maintaining quality service. The  
21 Commission has given clear signals that service quality is a critical component in  
22 establishing rates. The Commission should now give a signal that it is prepared to assist  
23 utilities in maintaining excellent service quality by approving Aqua PA's requested base  
24 rate increase.

1 **Q. Does that conclude your testimony at this time?**

2 Yes, however I reserve the right to supplement my testimony as needing during the  
3 progression of this case.

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**DOCKET NOS. R-2021-3027385, R-2021-3027386**

**AQUA PENNSYLVANIA, INC.  
AQUA PENNSYLVANIA WASTEWATER, INC.**

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**PREPARED DIRECT TESTIMONY OF  
ERIN M. FEENEY**

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**Topics Addressed:**

**Revenue Data, Certain Expense Adjustments, Acquisitions and Certain Rate Base Issues**

DATE SERVED: August 20, 2021  
DATE ADMITTED: \_\_\_\_\_

**Aqua Statement No. 2**

## **TABLE OF CONTENTS**

I.	INTRODUCTION AND PURPOSE OF TESTIMONY .....	1
II.	OPERATING REVENUE ADJUSTMENTS .....	3
III.	CERTAIN OPERATING EXPENSES .....	8
IV.	DEPRECIATION AND TAXES OTHER THAN INCOME.....	12
V.	CERTAIN COMPONENTS OF RATE BASE .....	14
VI.	ACQUISITIONS.....	16
VII.	TARIFF CHANGES.....	17
VIII.	CONCLUSION.....	18

1                                   **I.           INTRODUCTION AND PURPOSE OF TESTIMONY**

2   **Q.    What is your name and business address?**

3   A.    My name is Erin M. Feeney. My business address is 762 W. Lancaster Avenue, Bryn  
4        Mawr, Pennsylvania 19010.

5   **Q.    By whom are you employed and in what capacity?**

6   A.    I am employed by Aqua Pennsylvania, Inc. as Manager of Rates.

7   **Q.    On whose behalf are you providing this direct testimony?**

8   A.    I am providing this testimony on behalf of Aqua Pennsylvania, Inc. and Aqua Pennsylvania  
9        Wastewater, Inc. (collectively “Aqua PA”, “AP”, or the “Company”).

10  **Q.    Please describe your education and business experience.**

11  A.    I graduated from La Salle University in 2012 with a Bachelor of Science degree in Business  
12        Administration, with a major in Accounting. I have also completed the Utility Rate School  
13        course sponsored by the National Association of Regulatory Utility Commissioners.

14            I have been employed by Aqua PA or Aqua Services, Inc. (“Aqua Services”) since  
15        2009. Throughout my university education, I worked at Aqua Services part-time in a  
16        variety of departments, including Finance Projects, Tax, and Financial Planning and  
17        Analysis. Upon graduation, I was hired as a full-time Financial Analyst in the Financial  
18        Planning and Analysis (“FP&A”) department, and in 2014 I was promoted to a Financial  
19        & Systems Analyst. My duties in the FP&A department included developing, preparing  
20        and maintaining financial reports, variance analysis and other financial models while  
21        closely supporting the budgeting and long-term planning needs of Aqua America’s  
22        subsidiaries. In 2016, I transferred to Aqua PA where I worked in the Rates and Planning  
23        Department. I was promoted in 2019 to my current position as Manager of Rates.

1 **Q. What are your duties as Manager of Rates?**

2 A. My duties primarily include the preparation of various financial regulatory filings  
3 submitted with the Pennsylvania Public Utility Commission (“PUC” or the  
4 “Commission”). Those filings include, but are not limited to, the following: Quarterly  
5 Earnings Reports, Distribution System Improvement Charge (“DSIC”) Surcharge filings,  
6 water and wastewater tariff compliance filings, and other regulatory compliance filings  
7 upon request of the PUC. My duties also include the preparation of base rate cases and  
8 supporting those applications as a primary accounting witness. I report directly to the Vice  
9 President Rates and Regulatory Accounting and Regional Controller, with whom I assist  
10 in the oversight and direction of regulatory accounting matters for the Company.

11 **Q. What is the purpose of your testimony?**

12 A. The purpose of my testimony is to: (1) identify and describe certain adjustments of the  
13 Company’s revenue, expense and rate base claims that I am sponsoring as presented in  
14 Exhibit 1-A and Exhibits 1-B through 1-G in support of the Company’s proposed rate  
15 increase for water and wastewater operations, respectively; (2) provide an overview of the  
16 Company’s acquisitions since the end of its last water and wastewater base rate case; and  
17 (3) discuss proposed tariff changes.

18 **Q. For which of the Company’s Exhibits are you responsible?**

19 A. I am responsible for portions of Exhibit 1-A and Exhibits 1-B through 1-G including: (1)  
20 operating revenues; (2) various operating expenses; (3) amortization of new positive  
21 acquisition adjustments; (4) depreciation; and (5) taxes other than income, including  
22 general assessment fees, property and payroll taxes. In addition, I am responsible for  
23 Exhibits 2 and 3-A and I assisted in the preparation of the following backup volumes that

1 contain responses to the Commission’s standard rate case filing requirements: Statement  
2 of Income, Operating Revenue, Operating Expense, Rate Base, Rate of Return, Rate  
3 Structure, Balance Sheet, and Other Data.

4 **II. OPERATING REVENUE ADJUSTMENTS**

5 **Q. Please describe the derivation of the Company’s pro forma operating revenue claim.**

6 A. The Company’s revenue claim was derived from revenue recorded in the twelve months  
7 ended March 31, 2021 (the “historic test year” or “HTY”) for all Pennsylvania water and  
8 wastewater operations, to which I made various adjustments. Schedule B-1 shows a  
9 summary of the revenues under present and proposed rates for each of the test years for the  
10 following separate revenue requirements:

- 11 • Exhibit 1-A - Water
- 12 • Exhibit 1-B - Wastewater Base (excluding acquisitions)
- 13 • Exhibit 1-C - Limerick Wastewater
- 14 • Exhibit 1-D - East Bradford Wastewater
- 15 • Exhibit 1-E - Cheltenham Wastewater
- 16 • Exhibit 1-F - East Norriton Wastewater
- 17 • Exhibit 1-G - New Garden Wastewater

18  
19 I worked in conjunction with Aqua PA witness Constance Heppenstall, AP Statement No.  
20 5, on the preparation of the operating revenue schedules in this case which are further  
21 supported by a billing analysis and bill frequency analysis of the HTY, included with the  
22 Company’s filing as Exhibits 5-A and 5-B. I coordinated the delivery of the billing data to  
23 witness Heppenstall (AP Statement No. 5) such that she could conduct a thorough analysis  
24 and calculation of the billing determinants in this proceeding. Schedule B-2 of Exhibits 1-  
25 A and 1-B through 1-G were prepared in the same manner, in that they display the typical  
26 adjustments one would expect to see in the preparation of a utility billing analysis. Those  
27 adjustments include the following: (1) Application of Present Rates in effect; (2)

1 Annualization adjustments for DSIC surcharges and newly acquired service areas; (3)  
2 Adjustment to add revenue for organic customer growth; (4) Adjustment to revenues for  
3 normalization of usage in the residential, commercial and public classes; and (5) Other  
4 miscellaneous revenue adjustments including the removal of acquisition revenue not  
5 included in this application. Projected customer additions during the future test year ending  
6 March 31, 2022 (“FTY”) and fully projected future test year ending March 31, 2023  
7 (“FPFTY”) were determined on the basis of a three-year historical growth average  
8 exclusive of acquisitions.

9 **Q. Can you please list the various adjustments to operating revenue that were applied to**  
10 **historical test year data?**

11 A. Yes, the following adjustments were made for water operations: (1) Change in Customers;  
12 (2) DSIC Annualization Adjustment; (3) COVID Usage Normalization Adjustment; and  
13 (4) Elimination of James Black Water Company (“Belle Aire Acres”) and Twin Lakes  
14 Water Company.

15 The following adjustments were made for wastewater operations: (1) Change in  
16 Customers; (2) DSIC Annualization Adjustment; (3) Annualization of Acquisition – East  
17 Norriton; (4) Annualization of Acquisition – New Garden; and (5) Elimination of North  
18 Heidelberg Revenue.

19 **Q. Please describe the Change in Customers adjustment reflected on Schedule B-5 of**  
20 **Exhibit 1-A.**

21 A. Schedule B-5 lists adjustments to revenue for the estimated change in number of customers  
22 during the FTY and FPFTY. Water customer growth is expected in the residential class,  
23 while a decrease is expected in the commercial class based on the Company’s historical

1 experience, in which the commercial class has decreased by approximately 117 accounts  
2 since the last rate case.

3 **Q. Please describe the COVID adjustment to revenues reflected on Schedule B-7 of**  
4 **Exhibit 1-A.**

5 A. As shown in Schedule B-7 of Exhibit 1-A, the extraordinary impacts of the COVID-19  
6 pandemic in the HTY resulted in unusual effects to consumption trends among the  
7 residential, commercial and public classes. The total overall change in consumption is a  
8 net increase of 2,842,399 hundred gallons. The total overall change in revenue is a net  
9 decrease of \$64,639.

10 **Q. Exhibit 1-A lists additional adjustments that are unique to the water data. Can you**  
11 **please explain the adjustments?**

12 A. The adjustments made to water revenues, other than specific adjustments as reflected  
13 above, relate to the following: (1) Schedule B-4 shows a revenue adjustment which was  
14 made to reflect the annualization of the DSIC revenues for March 31, 2022 based on the  
15 Company's pro forma level at March 31, 2022 and the 7.50% rate that is expected to  
16 become effective on January 1, 2022; (2) Schedule B-8 eliminates (a) State Tax Adjustment  
17 Surcharge ("STAS") refunds and (b) adjusts the test year revenue amounts to eliminate  
18 back bills; (3) Schedule B-9 (a) adjusts revenue due to the lower levels of consumption  
19 experienced in the HTY for an Industrial customer, (b) annualizes usage and revenues to a  
20 normal level for Masury, and (c) adjusts Private Fire revenue for final bills that were issued  
21 during the test year.

22

1 **Q. Please describe the Change in Customers adjustment reflected on Schedule B-5 of**  
2 **Exhibit 1-B.**

3 A. Schedule B-5 lists adjustments for the estimated change in number of customers during the  
4 FTY and FPFTY. Wastewater customer growth is expected in the residential class based  
5 on the Company's historical experience.

6 **Q. Please explain the adjustment reflected on Schedule B-4 of Exhibits 1-B, 1-C and 1-**  
7 **D.**

8 A. Schedule B-4 shows a revenue adjustment which was made to reflect the annualization of  
9 the DSIC revenues for March 31, 2022, based on the Company's pro forma level at March  
10 31, 2022, and the 5.00% rate that is expected to become effective on January 1, 2022.

11 **Q. Exhibit 1-F includes an acquisition annualization adjustment. Can you please explain**  
12 **the adjustment?**

13 A. Yes, Schedule B-5 of Exhibit 1-F lists an adjustment to revenues for the annualization of  
14 the East Norriton wastewater system, which was acquired on June 20, 2020. Since this  
15 wastewater system was acquired during the HTY and has only partial year revenue listed  
16 for the twelve months ended March 31, 2021, this adjustment annualizes the revenues  
17 associated with this system for the FTY and FPFTY.

18 **Q. Exhibit 1-G includes an acquisition annualization adjustment. Can you please**  
19 **explain the adjustment?**

20 A. Yes, Schedule B-5 of Exhibit 1-G lists an adjustment to revenues for the annualization of  
21 the New Garden wastewater system, which was acquired on December 22, 2020. Since  
22 this wastewater system was acquired during the HTY and has only partial year revenue

1 listed for the twelve months ended March 31, 2021, this adjustment annualizes the revenues  
2 associated with this system for the FTY and FPFTY.

3 **Q. Schedule B-7 in Exhibit 1-B, Schedule B-5 in Exhibit 1-C and Schedule B-5 in Exhibit**  
4 **1-D present several miscellaneous revenue adjustments. Please explain.**

5 A. Schedule B-7 in Exhibit 1-B adjusts the test year revenue amounts to normalize the HTY  
6 revenues for Woodloch Pines, East Side, Penn Lake, Dennison and Foster Townships.  
7 Schedule B-5 in Exhibit 1-C is an adjustment to reflect the reclassification of revenue by  
8 customer class. Schedule B-5 in Exhibit 1-D is also an adjustment to reflect the  
9 reclassification of revenue by customer class.

10 **Q. Please explain the adjustment to eliminate unbilled revenue.**

11 A. Schedule B-3 in Exhibit 1-A and Exhibits 1-B through 1-G provides a detailed breakdown  
12 of the adjustment for unbilled revenue by customer class. This adjustment is made to reflect  
13 the fact that Aqua PA records per-book revenues on an accrual basis. This adjustment,  
14 consistent with prior practice, eliminates the effect of revenue accrued per books but not  
15 billed during the twelve months ended March 31, 2021. Such unbilled revenue is recorded  
16 per books pursuant to accepted accrual-accounting procedures to reflect revenues for  
17 service rendered but not billed as of the end of an accounting period. Items that produce  
18 unbilled revenue include such things as increases in rates and increases in the number of  
19 customers. Reflecting such unbilled revenue per books is a normal and correct accounting  
20 procedure. In developing pro forma revenues for ratemaking purposes, separate  
21 adjustments were made to annualize the revenue effect of such factors as increases in the  
22 number of customers and increases in rates that became effective during the historic test

1 year. Therefore, in order to eliminate any duplication of revenue for ratemaking purposes,  
2 unbilled revenue accrued per books must be removed.

### 3 III. CERTAIN OPERATING EXPENSES

#### 4 Q. Did you prepare any adjustments to the Company's Operating Expenses?

5 A. Yes, I am responsible for the following adjustments: (1) Uncollectible Accounts; (2)  
6 Derivation of Uncollectible Accounts; (3) Additional Cost of Serving Customers; (4)  
7 Payroll; and (5) Amortization of New Positive Acquisition Adjustments.

#### 8 Q. Please explain the adjustment to Uncollectible Accounts expense on Schedule C-4.2 9 of Exhibits 1-A and 1-B.

10 A. The Company's claims for uncollectible accounts expense were developed by applying the  
11 three year average factor of net write-offs (as supported in Schedule C-4.2.i) to the HTY,  
12 FTY and FPFTY level revenues at present rates for both Exhibits 1-A and 1-B.

13 The annualized uncollectible accounts factor was calculated by utilizing the  
14 Company's actual write-off experience for the three years ended March 31, 2021 divided  
15 by the Total Sales to General Customers for the three years ended March 31, 2021. The  
16 three years included within the average calculations are for the twelve months ended March  
17 31, 2019 and March 31, 2020, both of which were not impacted by the COVID-19  
18 pandemic, and the twelve months ended March 31, 2021, which was impacted by the  
19 COVID pandemic. While COVID impacted uncollectible expense in the HTY, the impact  
20 is in the form of the regulatory asset established pursuant to the Emergency Order at Docket  
21 No. M-2020-3019244 that the Commission ratified on March 26, 2020. Therefore, the  
22 uncollectible expense amount for the HTY is based on the uncollectible expense currently  
23 included in the Company's rates, exclusive of the incremental impact of COVID. Mr.

1 Packer explains the Company's proposed treatment of the regulatory asset (AP Statement  
2 No. 1). For water, Schedule C-4.2.i in Exhibit 1-A calculates an annualized uncollectible  
3 accounts factor of 0.51224%. For wastewater, Schedule C-4.2.i in Exhibit 1-B calculates  
4 an annualized uncollectible accounts factor of 1.19391%.

5 **Q. Please explain the adjustment for Cost of Serving Additional Customers appearing**  
6 **on Schedule C-4.3 of Exhibit 1-A.**

7 A. This adjustment recognizes the incremental expense associated with providing service to  
8 additional customers. The derivation of the operating ratio between incremental operating  
9 expenses and revenue is developed in the lower portion of the schedule. The application  
10 of the operating ratio to the additional revenue from new customers connected during the  
11 three years ended March 31, 2023 (exclusive of acquisitions) is shown in the upper portion  
12 of the schedule. In Exhibit 1-A, an adjustment of \$65,789 is produced from the calculation.  
13 This is the additional operating expense that is incurred in conjunction with the \$1,660,311  
14 of additional operating revenue from the new water customers connected during the three  
15 years ended March 31, 2023.

16 **Q. Please explain the adjustment for Cost of Serving Additional Customers appearing**  
17 **on Schedule C-4.3 of Exhibit 1-B.**

18 A. This adjustment recognizes the incremental expense associated with providing service to  
19 additional customers. The derivation of the operating ratio between incremental operating  
20 expenses and revenue is developed in the lower portion of the schedule. The application  
21 of the operating ratio to the additional revenue from new customers connected during the  
22 three years ended March 31, 2023 (exclusive of acquisitions) is shown in the upper portion  
23 of the schedule. In Exhibit 1-B, an adjustment of \$28,447 is produced from the calculation.

1 This is the additional operating expense that is incurred in conjunction with the \$161,140  
2 of additional operating revenue from the new wastewater customers connected during the  
3 three years ended March 31, 2023.

4 **Q. Please explain the Company's claim for payroll expense.**

5 A. The Company's claim for payroll expense is developed in Exhibit 2, and is summarized in  
6 Schedules C-4.5 of Exhibits 1-A and 1-B through 1-G. The adjustment reflects known or  
7 anticipated changes to the Company's union and non-union employees at the end of the  
8 FPFTY. The Company's FTY and FPFTY claims for payroll expense related to water  
9 service approximates \$35.8 million and \$36.8 million, respectively. The Company's claim  
10 for payroll expense related to wastewater service approximates \$3.0 million for both the  
11 FTY and FPFTY (there is only an \$87,020 difference between the two periods). In  
12 calculating those costs, I included the salaries and wages associated with the Company's  
13 present complement of authorized positions. In addition, salary and wage levels were  
14 adjusted to reflect known or projected changes in compensation as follows.

15 Exhibits 1-A & 1-B Non-Union Payroll – Employees are granted individual salary  
16 increases through an annual performance review. The water non-union gross payroll, at  
17 FTY and FPFTY salary levels, was determined to be \$20,868,401 and \$21,495,994,  
18 respectively. The wastewater non-union gross payroll, at FTY and FPFTY salary levels,  
19 was determined to be \$1,764,660 and \$1,817,730 respectively. In deriving these claims, I  
20 first started with employees' April 1, 2021 actual labor rates and annualized expenses at  
21 those rates. In addition, for the FPFTY, I anticipated an additional merit pay increase for  
22 all employees, which was also annualized. The assumed percentage increases are included  
23 in Schedule 4 of Exhibit 2. The Company's labor claims also include cash short-term

1 incentive compensation for eligible employees. To the extent that an employee's base pay  
2 was increased as I described earlier, a commensurate adjustment in the amount of eligible  
3 incentive pay would follow accordingly at the same percentage levels.

4 Exhibit 1-A & 1-B Union Payroll – Aqua PA has seven different unions, each with  
5 its own collective bargaining agreements and anniversary dates that changes in hourly rates  
6 will become effective. The water gross union payroll, at the FTY and FPFTY levels, was  
7 determined to be \$31,015,348 and \$31,871,426 respectively. The wastewater union gross  
8 payroll, at FTY and FPFTY wage levels, was determined to be \$1,445,933 and \$1,485,843  
9 respectively. The Company's claims were developed to annualize the actual pay rates  
10 effective for each union in both the FTY and FPFTY as of March 31, 2023. Further details  
11 regarding contractual increase percentages are provided in Exhibit 2 – Payroll.

12 The gross payroll amounts in Exhibits 1-A through 1-G reflect a reasonable  
13 vacancy adjustment that is in line with the Company's actual experience. These amounts  
14 are further reduced by capitalized labor and non-operating labor as experienced in the HTY  
15 and applied to the FTY and FPFTY to arrive at the total expense labor.

16 **Q. Please explain the Amortization of New Positive Acquisition Adjustment on Schedule**  
17 **C-5.1 of Exhibit 1-A.**

18 A. The Company is proposing to amortize the positive acquisition adjustment involving the  
19 Phoenixville acquisition that was closed after the last Aqua PA rate cases were filed. Listed  
20 on Schedule C-5.1 of Exhibit 1-A is the first year amortization of the new positive  
21 acquisition adjustment. A twenty-year amortization period was selected, similar to the  
22 treatment of prior acquisition adjustments approved by the Commission.

23

1                    **IV.        DEPRECIATION AND TAXES OTHER THAN INCOME**

2    **Q.        Please explain the Statement of Depreciation shown on Schedule D-1 of Exhibit 1-A**  
3                    **and Exhibits 1-B through 1-G.**

4    A.        The Statement of Depreciation in Exhibit 1-A and Exhibits 1-B through 1-G shows the  
5                    Company’s annual depreciation expense claims for the FTY and FPFTY for both water  
6                    and wastewater assets. The annual provision for depreciation was computed by Gannett  
7                    Fleming Valuation and Rate Consultants, LLC for utility plant in service at March 31, 2022  
8                    and March 31, 2023 using the straight-line remaining life method as set forth in Mr.  
9                    Spanos’ Exhibit Nos. 6-A through 6-G. The amount computed by Mr. Spanos (AP  
10                    Statement No. 6) relates to utility plant in service, inclusive of customers’ advances for  
11                    construction (“CAC”), contributions in aid of construction (“CIAC”) and any related  
12                    retirements of assets. Comparing the Company’s claimed amount with the depreciation  
13                    expense recorded on the Company’s books for the year ended March 31, 2021, results in a  
14                    FTY increase of \$10,748,676 and a FPFTY increase of \$7,829,287 for water assets;  
15                    additionally, a FTY increase of \$1,066,402 and a FPFTY increase of \$963,090 for  
16                    wastewater assets.

17   **Q.        Please explain the summary provided in Schedule D-2 of Exhibits 1-A and 1-B**  
18                    **through 1-G.**

19   A.        The schedules referenced show a summary of the adjustments to taxes other than income  
20                    taxes for the HTY, FTY, and FPFTY at present rates and the FPFTY at proposed rates.  
21                    Each of the adjustments is discussed below.

22

1 **Q. Please explain the adjustments for General Assessments within Exhibits 1-A and 1-B**  
2 **through 1-G.**

3 A. The adjustment set forth on Schedules D-2.1 and D-2.2 of Exhibits 1-A and 1-B through  
4 1-G are based on the actual Commission, Office of Consumer Advocate (“OCA”), Office  
5 of Small Business Advocate (“OSBA”), and Damage Prevention Committee (“DPC”)  
6 assessment factors billed for the fiscal year April 1, 2020 to March 31, 2021. The assessed  
7 rates were applied to Gross Utility Revenues at present rates for the FTY and FPFTY and  
8 at proposed rates for the FPFTY.

9 **Q. Please explain the adjustment for Public Utility Realty Tax in Schedule D-2.3 of**  
10 **Exhibit 1-A.**

11 A. The taxes imposed by the Public Utility Realty Tax Act (“PURTA”) for the FTY and  
12 FPFTY are based on the estimated tax liability for 2020. This is the latest statement that  
13 the Company has received from the Commonwealth of Pennsylvania.

14 **Q. Please explain the adjustments for Pennsylvania property tax listed in Schedule D-2.4**  
15 **of Exhibits 1-A, 1-B, and 1-D.**

16 A. The Company’s claim for property taxes is its actual HTY property taxes. Historically, the  
17 Company has not seen a tremendous amount of volatility in its property tax liability.  
18 Should information arise during the course of this proceeding that would justify an  
19 adjustment, I will revise the Company’s claim accordingly.

20 **Q. Please explain the Company’s adjustment for payroll taxes.**

21 A. The Company’s adjustment to Federal and State payroll taxes appears in Schedule D-2.5  
22 in Exhibit 1-A. The FTY and FPFTY adjustments for both Federal and State payroll taxes  
23 is based on the Company’s FTY and FPFTY payroll claims. The Federal Insurance

1 Contribution Act tax was calculated using the tax rates and taxable wage bases that are in  
2 effect in 2021. The Federal and State unemployment taxes were calculated using the  
3 Company's current tax rates and taxable wage bases.

4 The pro forma tax amounts were then reduced by the amount not charged to  
5 operations. Payroll taxes applicable to wastewater operations are an allocated portion of  
6 total Company taxes and handled as a component of the intracompany allocation of  
7 expenses shown in Exhibit 1-A, Schedule C-8.5.

#### 8 V. CERTAIN COMPONENTS OF RATE BASE

9 **Q. Please describe the data presented in Schedule G-2 of Exhibits 1-A and 1-B through**  
10 **1-G and identify who is responsible for this data.**

11 A. Schedule G-2 shows the Company's actual utility plant in service as of March 31, 2021,  
12 and the projected utility plant in service per scheduled additions and retirements for the  
13 twelve months ending March 31, 2022 and March 31, 2023. It also shows the Accumulated  
14 Depreciation for each year associated with the Utility Plant in Service. I worked with Mr.  
15 Spanos by providing him Company data on projected FTY and FPFTY additions and  
16 retirements. Accordingly, the aforementioned data was used as the basis for Mr. Spanos'  
17 Exhibit No. 6-A and 6-B through 6-G.

18 **Q. Please explain the derivation of the total Original Cost of Utility Plant in Service for**  
19 **both water and wastewater assets for the FTY and FPFTY as reflected in Schedule**  
20 **G-2 and referenced in Schedule G-1 of Exhibits 1-A and 1-B through 1-G.**

21 A. The starting point for both water and wastewater utility plant in service was the HTY  
22 ending balance of \$4,909,729,427 for water and \$500,221,311 for wastewater. That figure  
23 was then increased to reflect FTY and FPFTY plant additions (net of retirements) and

1 acquired systems utility plant acquisition adjustments (“UPAA”), which will be discussed  
2 later in this statement. The anticipated additions and retirements of water assets for the  
3 years ended March 31, 2022 and March 31, 2023 are set forth in detail in Attachment 1 to  
4 my testimony and comprise needed improvements to the Company’s infrastructure  
5 including, but not limited to: water supply, storage, and distribution facilities. The  
6 majority of the Company’s capital investment remains in distribution assets such as mains,  
7 services, hydrants, valves, and meters. The anticipated additions and retirements of  
8 wastewater assets for the years ended March 31, 2022 and March 31, 2023 are set forth in  
9 detail in Attachment 2 to my testimony. Details of wastewater capital investments are  
10 covered in AP Statement No. 9 by Witness Todd M. Duerr. Details of the accumulated  
11 depreciation used in Schedules G-2 can be found in AP Statement No. 6 by Witness John  
12 Spanos.

13 **Q. Please explain the adjustments on Schedule G-3 of Exhibit 1-A.**

14 A. The adjustments in Schedule G-3 of Exhibit 1-A reflect the recognition of the positive  
15 UPAA associated with the acquisition of various water utility assets pursuant to the terms  
16 of the Commission-approved settlement of the Company’s rate cases at Docket Nos. R-  
17 00038805, R-00051030, R-00072711, R-2009-2132019, and R-2018-3003558. In  
18 addition, the Company is requesting recognition of the positive UPAA associated with its  
19 acquisition of the water assets for Phoenixville Borough. The requirements of this positive  
20 UPAA will be discussed further in this Statement.

1 **Q. Please explain the reductions from rate base for CIAC and CAC as listed on**  
2 **Schedules G-6 of Exhibits 1-A and 1-B through 1-G.**

3 A. These reductions to rate base are summarized in Mr. Spanos' Exhibit 6-A and 6-B. The  
4 CIAC and CAC related to plant in service at March 31, 2023 reflect the actual CIAC and  
5 CAC recorded on the Company's books of account as of that date.

6 **VI. ACQUISITIONS**

7 **Q. Please provide an overview of the Phoenixville acquisition which the Company is**  
8 **reflecting in this rate base pursuant to Section 1327 of the Public Utility Code, 66 Pa.**  
9 **C.S. § 1327.**

10 A. Since the Company's last water rate case was filed, the Company has completed the  
11 following acquisition not yet reflected in rate base: (1) WA-1, Phoenixville (12/2019).  
12 Exhibit 3-A contains the journal entry and the original cost study for the acquisition, as  
13 mentioned above corresponding to the listed classification system.

14 **Q. How does the Company propose to treat this acquisition for rate purposes?**

15 A. With respect to this acquisition, the Company paid more than depreciated original cost  
16 ("DOC"). Where the Company paid more than DOC, the assets acquired were recorded  
17 on its regulatory books of account at DOC and the Company has requested a return on and  
18 return of purchase price, which is reflected as a "positive" acquisition adjustment.

19  
20  
21  
22

1 **Q. Section 1327 enumerates certain criteria that an acquiring company must meet in**  
2 **order to include a positive acquisition adjustment in rate base. Do you believe that**  
3 **the acquisition for which you are seeking “positive” acquisition adjustment treatment**  
4 **satisfies those criteria?**

5 A. Yes, I do. The specific acquisition falling into the “positive” acquisition adjustment  
6 category, as well as the proposed amortization of the adjustment associated therewith, are  
7 set forth on Schedule C-5.1 of Exhibit 1-A. Exhibit 3-A consists of a series of schedules  
8 which describe how the acquisition shown on Schedule C-5.1 of Exhibit 1-A satisfies the  
9 requirements of Section 1327.

10 **Q. How did AP determine the DOC of the Phoenixville system acquired since its last**  
11 **case?**

12 A. The Company engaged outside professional utility valuation firm AUS Consultants who  
13 are experienced and knowledgeable in performing utility valuations pursuant to PUC  
14 requirements. The results of those analyses were documented in the form of original cost  
15 studies which are being submitted with this rate filing as part of Exhibit 3-A.

## 16 VII. TARIFF CHANGES

17 **Q. What is the Universal Service Rider (“USR”)?**

18 A. The USR develops a universal service charge based upon an estimate of the costs to be  
19 incurred by the Company to administer and provide benefits under the proposed Customer  
20 Assistance Programs (“CAP”). Aqua PA’s USR Rider is modeled after the Commission-  
21 approved CAP Riders that are already in effect. The USR is included as a rider in the  
22 proposed water tariff, Tariff Water-PA P.U.C. No. 3, and wastewater tariff, Tariff Sewer-  
23 PA P.U.C. No. 3, submitted with this filing and describes the mechanics of the clause.

1 **Q. Are you aware of any other regulated utilities that have customer assistance programs**  
2 **included in their PUC approved tariffs?**

3 A. My understanding is that the Commission approved a customer assistance program for  
4 Pennsylvania American Water Company (“PAWC”) in addition to long-standing customer  
5 assistance programs for Columbia, PECO, and Peoples.

6 **Q. How would the USR operate?**

7 A. The USR would adjust customers’ bills by adding a charge or credit to reflect increases or  
8 decreases, respectively, in the Company’s “Baseline Cost.” The Baseline Cost is the  
9 estimate to administer and provide benefits under the various program components in the  
10 proposed CAP. Costs and revenues under the USR will be reconciled each year, and an  
11 over or under collection, as applicable, will be included in the “E” factor of the charge.

12 **Q. Describe the audit and reconciliation process included in the proposed USR.**

13 A. The operation of the USR will be subject to audit by the Commission and will also be  
14 subject to an annual reconciliation process. This is included in the proposed tariff rider.  
15 See Tariff Water-PA P.U.C. No. 3 and Tariff Sewer-PA P.U.C. No. 3.

16 **VIII. CONCLUSION**

17 **Q. Does that conclude your testimony at this time?**

18 A. Yes, it does, but I reserve the right to supplement my testimony as needed during this  
19 proceeding.

Estimated Future Test Year Additions and Retirements  
 For the Twelve Month Period Ending March 31, 2022

Work Order Group	Capital Additions	Capital Retirements
0050-Expense Tracking Projects	187,500	-
0095-General Overhead	5,857,142	-
0096-Payroll Overhead	849	-
0105-New Mains (Ext @ Cost)	456,423	-
0106-Lower, Replace & Relocate	(2,897)	-
0107-Install Mains- Co Expense	888,865	-
0108-Mains Partially Funded By	131,846	-
0109-Main Replacements (NS)	-	-
0110-Main Replacements (SC)	158,630,442	(14,844,388)
0113-Main Replacements Pennvest(NS)	(1,171)	110
0115-Tie-In Dead End Mains (NS)	(52)	5
0116-Tie-In Dead End Mains (SC)	8,650,536	(809,504)
0125-Capitalized Main Breaks	5,384,688	(503,891)
0130-Highway Relocations (NS)	3,003,855	(281,096)
0131-Reimbursed Highway Reloca	-	-
0132-Highway Relocations (SC)	5,964,248	(558,125)
0136-Valve Replacements (SC)	1,458,197	(136,456)
0141-Catholic Protection Equip (NS)	232,156	(21,725)
0145-Tank Painting	2,310,229	(216,188)
0150-Contributions in Aid of Constr	(187,500)	17,546
0198-Other Main/DistrSysImpr (SC)	2,323,509	(217,430)
0199-Other Main/DistrSysImpr (NS)	3,284,007	(307,312)
0205-Eligible Meters (SC)	7,146,130	(668,724)
0210-Eligible Meters (NS)	777,358	(72,744)
0215-Supplies Meters (NS)	359,338	(33,626)
0225-ERT Devices (SC)	2,661,704	(249,078)
0299-Other Meter Projects	225,500	(21,102)
0305-New Services	4,310,622	(403,381)
0310-Renewal Services-Regular (SC)	5,275,390	(493,663)
0315-Renewal Services - Main Rehab	18,116,991	(1,695,360)
0399-Other Service Work	-	-
0405-New Hydrants	444,696	(41,614)
0410-Replace/Relocate Hydrants	3,453,821	(323,203)
0415-Eliminate No Drain Hydrants	362,081	(33,883)
0505-Chlorination Enhancements	532,054	(49,789)
0510-Automated Distr Controls	1,811,864	(169,551)
0512-Treatment Plants	26,883,679	(2,515,732)
0514-Boosters (TPB)	6,504,481	(608,679)
0515-Improvements Other (TPB) (NS)	3,398,480	(318,024)
0517-Pumping Equipment Water (NS)	101,250	(9,475)
0519-Pumping Equipment Water (SC)	2,000	(187)
0520-Equipment (TPB)	266,500	(24,939)
0521-Wells	31,371,223	(2,935,670)
0522-Dams	1,898,665	(177,674)
0525-Tanks/Resvrs/Standpipes	12,550,398	(1,174,447)
0599-Other (TPB)	935,439	(87,537)
0605-Chlorination Enhancements(LT)	848,168	(79,370)
0610-Treatment Equipment (Lt) (NS)	370,727	(34,692)
0615-Lab Equipment (Lt)	383,425	(35,880)
0699-Other Lab/Treatment Work	43,750	(4,094)
0705-Fence Replacements	90,226	(8,443)
0710-Office Furniture	139,639	(13,067)
0715-Office Equipment	19,400	(1,815)
0720-Improvements	22,891,816	(2,142,180)
0730-Backflow Prevention	500	(47)
0799-Other Building/Maintenance Work	1,500	(140)
0805-New Vehicles	3,906,992	(365,610)
0810-Mechanical Equipment	297,100	(27,802)
0899-Other - Garage Equipment	135,391	(12,670)
0900-Information System Expenditure	40,165,953	(3,758,667)
0901-Working Tools	909,997	(85,156)
0902-Safety	838,615	(78,476)
0903-Land Purchases/Disposals	1,661,158	(155,449)
0904-Reserves	-	-
0905-Retirements W/O Replacement	300,455	(28,116)
0911-Security	841,488	(78,745)
0997-Contributed Property (CWIP)	1,134,494	-
0998-Contributed Property (CIAC)	(2,750)	-
<b>TOTAL</b>	<b>402,940,579</b>	<b>(36,896,955)</b>

Estimated Fully-Projected Future Test Year Additions and Retirements  
 For the Twelve Month Period Ending March 31, 2023

Work Order Group	Capital Additions	Capital Retirements
0050-Expense Tracking Projects	750,000	-
0095-General Overhead	4,771,999	-
0096-Payroll Overhead	-	-
0105-New Mains (Ext @ Cost)	-	-
0106-Lower, Replace & Relocate	-	-
0107-Install Mains- Co Expense	930,000	-
0108-Mains Partially Funded By	500,000	-
0109-Main Replacements (NS)	-	-
0110-Main Replacements (SC)	137,838,459	(12,747,127)
0113-Main Replacements Pennvest(NS)	-	-
0115-Tie-In Dead End Mains (NS)	-	-
0116-Tie-In Dead End Mains (SC)	4,751,978	(439,457)
0125-Capitalized Main Breaks	4,981,000	(460,637)
0130-Highway Relocations (NS)	651,800	(60,278)
0131-Reimbursed Highway Reloca	90,000	(8,323)
0132-Highway Relocations (SC)	1,735,000	(160,451)
0136-Valve Replacements (SC)	1,568,694	(145,071)
0141-Catholic Protection Equip (NS)	200,000	(18,496)
0145-Tank Painting	4,721,250	(436,615)
0150-Contributions in Aid of Constr	-	-
0198-Other Main/DistrSysImpr (SC)	2,013,000	(186,160)
0199-Other Main/DistrSysImpr (NS)	7,188,086	(664,745)
0205-Eligible Meters (SC)	4,658,821	(430,842)
0210-Eligible Meters (NS)	744,816	(68,880)
0215-Supplies Meters (NS)	349,094	(32,284)
0225-ERT Devices (SC)	1,755,393	(162,337)
0299-Other Meter Projects	117,433	(10,860)
0305-New Services	4,237,028	(391,835)
0310-Renewal Services-Regular (SC)	4,813,669	(445,162)
0315-Renewal Services - Main Rehab	18,459,090	(1,707,073)
0399-Other Service Work	-	-
0405-New Hydrants	170,621	(15,779)
0410-Replace/Relocate Hydrants	3,794,358	(350,897)
0415-Eliminate No Drain Hydrants	237,919	(22,002)
0505-Chorination Enhancements	560,000	(51,788)
0510-Automated Distr Controls	6,091,250	(563,311)
0512-Treatment Plants	21,123,751	(1,953,498)
0514-Boosters (TPB)	2,808,150	(259,694)
0515-Improvements Other (TPB) (NS)	274,500	(25,385)
0517-Pumping Equipment Water (NS)	165,000	(15,259)
0519-Pumping Equipment Water (SC)	-	-
0520-Equipment (TPB)	220,000	(20,345)
0521-Wells	20,790,802	(1,922,707)
0522-Dams	6,982,258	(645,710)
0525-Tanks/Resvrs/Standpipes	3,677,450	(340,086)
0599-Other (TPB)	512,750	(47,418)
0605-Chlorination Enhancements(LT)	-	-
0610-Treatment Equipment (Lt) (NS)	296,250	(27,397)
0615-Lab Equipment (Lt)	560,125	(51,800)
0699-Other Lab/Treatment Work	175,000	(16,184)
0705-Fence Replacements	186,150	(17,215)
0710-Office Furniture	289,525	(26,775)
0715-Office Equipment	5,725	(529)
0720-Improvements	5,217,865	(482,542)
0730-Backflow Prevention	2,000	(185)
0799-Other Building/Maintnence Work	-	-
0805-New Vehicles	3,550,000	(328,300)
0810-Mechanical Equipment	993,750	(91,901)
0899-Other - Garage Equipment	-	-
0900-Information System Expenditure	23,429,221	(2,166,705)
0901-Working Tools	1,278,650	(118,248)
0902-Safety	891,925	(82,484)
0903-Land Purchases/Disposals	100,000	(9,248)
0904-Reserves	-	-
0905-Retirements W/O Replacement	271,000	(25,062)
0911-Security	2,288,700	(211,656)
0997-Contributed Property (CWIP)	11,000	-
0998-Contributed Property (CIAC)	(11,000)	-
<b>TOTAL</b>	<b>314,771,304</b>	<b>(28,466,740)</b>

Estimated Future Test Year Additions and Retirements  
 For the Twelve Month Period Ending March 31, 2022

Work Order Group	Capital Additions	Capital Retirements
0111-Force Mains Sewer (NS)	200,000	(20,946)
0112-Gravity Mains Sewer (NS)	118,913	(12,454)
0117-Forced Mains Sewer (SC)	1,272,663	(133,285)
0118-Gravity Mains Sewer (SC)	4,879,384	(511,014)
0130-Highway Relocations (NS)	-	-
0135-Valve Replacements (NS)	6,000	(628)
0150-Contributions in Aid of Constr	(96,280)	-
0211-Flow Measuring Devices Sewer	109,296	(11,446)
0305-New Services	457,416	(47,905)
0310-Renewal Services-Regular (SC)	288,656	(30,231)
0510-Automated Distr Controls	575,000	(60,219)
0511-Improvements Other(TPB) (SC)	2,180,559	(228,368)
0512-Treatment Plants	15,904,205	(1,665,633)
0515-Improvements Other (TPB) (NS)	1,671,609	(175,066)
0516-Pumping Equipment Sewer (NS)	1,619,002	(169,557)
0518-Pumping Equipment Sewer (SC)	123,527	(12,937)
0520-Equipment (TPB)	263,495	(27,596)
0525-Tanks/Resvrs/Standpipes	10,000	(1,047)
0615-Lab Equipment (Lt)	58,697	(6,147)
0705-Fence Replacements	115,925	(12,141)
0720-Improvements	24,000	(2,513)
0740-Effluent Disposal System	556,111	(58,241)
0760-Power Generation Equip (NS)	27,701	(2,901)
0761-Power Generation Equip (SC)	6,000	(628)
0799-Other Building/Maintnence Work	1,296	(136)
0805-New Vehicles	28,750	(3,011)
0810-Mechanical Equipment	61,522	(6,443)
0900-Information System Expenditure	1,379,636	(144,488)
0901-Working Tools	1,562	(164)
0902-Safety	678,060	(71,013)
0903-Land Purchases/Disposals	(1,019)	-
0905-Retirements W/O Replacement	(539)	-
0911-Security	38,000	-
0997-Contributed Property (CWIP)	1,577,176	-
0998-Contributed Property (CIAC)	(1,500)	-
<b>TOTAL</b>	<b>34,134,821</b>	<b>(3,416,157)</b>

Estimated Fully-Projected Future Test Year Additions and Retirements  
 For the Twelve Month Period Ending March 31, 2023

Work Order Group	Capital Additions	Capital Retirements
0111-Force Mains Sewer (NS)	-	-
0112-Gravity Mains Sewer (NS)	2,194,000	(168,247)
0117-Forced Mains Sewer (SC)	323,000	(24,769)
0118-Gravity Mains Sewer (SC)	10,776,509	(826,399)
0130-Highway Relocations (NS)	1,389,430	(106,549)
0135-Valve Replacements (NS)	-	-
0150-Contributions in Aid of Constr	(409,190)	-
0211-Flow Measuring Devices Sewer	25,900	(1,986)
0305-New Services	447,694	(34,332)
0310-Renewal Services-Regular (SC)	250,066	(19,176)
0510-Automated Distr Controls	405,000	(31,058)
0511-Improvements Other(TPB) (SC)	694,375	(53,248)
0512-Treatment Plants	18,771,250	(1,439,478)
0515-Improvements Other (TPB) (NS)	530,950	(40,716)
0516-Pumping Equipment Sewer (NS)	531,420	(40,752)
0518-Pumping Equipment Sewer (SC)	526,000	(40,336)
0520-Equipment (TPB)	1,276,464	(97,886)
0525-Tanks/Resvrs/Standpipes	-	-
0615-Lab Equipment (Lt)	72,500	(5,560)
0705-Fence Replacements	42,850	(3,286)
0720-Improvements	210,000	(16,104)
0740-Effluent Disposal System	-	-
0760-Power Generation Equip (NS)	15,000	(1,150)
0761-Power Generation Equip (SC)	-	-
0799-Other Building/Maintenance Work	-	-
0805-New Vehicles	120,000	(9,202)
0810-Mechanical Equipment	55,000	(4,218)
0900-Information System Expenditure	-	-
0901-Working Tools	-	-
0902-Safety	540,000	(41,410)
0903-Land Purchases/Disposals	-	-
0905-Retirements W/O Replacement	-	-
0911-Security	110,000	(8,435)
0997-Contributed Property (CWIP)	5,250	-
0998-Contributed Property (CIAC)	(6,000)	-
<b>TOTAL</b>	<b>38,897,468</b>	<b>(3,014,299)</b>

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**DOCKET NOS. R-2021-3027385, R-2021-3027386**

**AQUA PENNSYLVANIA, INC.  
AQUA PENNSYLVANIA WASTEWATER, INC.**

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**PREPARED DIRECT TESTIMONY OF  
CHRISTOPHER E. MANNING**

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**Topics Addressed:**

**Certain Expense Adjustments**

DATE SERVED: August 20, 2021  
DATE ADMITTED: \_\_\_\_\_

**Aqua Statement No. 3**

1                   **I.           INTRODUCTION AND SCOPE OF TESTIMONY**

2   **Q.    What is your name and business address?**

3   A.    My name is Christopher. E. Manning. My business address is 762 W. Lancaster Avenue,  
4        Bryn Mawr, Pennsylvania 19010.

5   **Q.    By whom are you employed and in what capacity?**

6   A.    I am employed by Aqua Pennsylvania, Inc. as a Finance and Rate Analyst I.

7   **Q.    On whose behalf are you providing this direct testimony?**

8   A.    I am providing this testimony on behalf of Aqua Pennsylvania, Inc. and Aqua Pennsylvania  
9        Wastewater, Inc. (collectively “Aqua PA,” “AP”, or the “Company”).

10  **Q.    Please describe your education and business experience.**

11  A.    I graduated from Saint Joseph’s University in 2018 with a Bachelor of Science degree in  
12        Business Administration, with a major in Accounting. Prior to joining Aqua Pennsylvania,  
13        Inc., I worked for KPMG, LLP as an associate where I performed financial statement  
14        audits. In October of 2019, I joined Aqua Pennsylvania, Inc. where I filled my current role  
15        as a Finance and Rate Analyst I.

16  **Q.    What are your duties as a Finance and Rate Analyst?**

17  A.    My duties include assisting in the preparation of various financial regulatory filings  
18        submitted with the Pennsylvania Public Utility Commission (“PUC” or the  
19        “Commission”). Those filings include but are not limited to the following: Quarterly  
20        Earnings Reports, Distribution System Improvement Charge (“DSIC”) filings, water and  
21        wastewater tariff compliance filings, and other regulatory compliance filings upon request  
22        of the PUC. My duties also include the preparation of base rate cases and supporting those  
23        applications as an accounting witness.

1 **Q. What is the purpose of your testimony?**

2 A. The purpose of my testimony is to identify and describe certain operating expense  
3 adjustments, including general price level adjustment, inflation factor calculation, rate case  
4 expense, miscellaneous expense adjustments, and specific expenses not subject to inflation.

5 **Q. Please explain the General Price Level Adjustment appearing on Schedule C-4.1 of**  
6 **Exhibits 1-A and 1-B through 1-G.**

7 A. This adjustment reflects the anticipated effect of inflation on operating expenses that were  
8 not specifically adjusted in this case. The future test year ending March 31, 2022 (“FTY”)  
9 adjustment is derived from the total pro forma historic test year ended March 31, 2021  
10 (“HTY”) operating expenses, less the amounts specifically adjusted in this filing or not  
11 otherwise subject to inflation. The remaining amount which is subject to the effect of  
12 inflation is then multiplied by the average GDP chained price index forecast from the  
13 second quarter of 2021 through the first quarter of 2022 to arrive at the inflationary increase  
14 amount for the twelve months ending March 31, 2022. The fully projected future test year  
15 ending March 31, 2023 (“FPFTY”) adjustment in the above-referenced Exhibits is derived  
16 from the total pro forma FTY operating expenses, less the amounts specifically adjusted in  
17 this filing or not otherwise subject to inflation. The remaining amount which is subject to  
18 the effect of inflation is then multiplied by the average GDP chained price index forecast  
19 from the second quarter of 2022 through the first quarter of 2023 to arrive at the inflationary  
20 increase amount for the twelve months ending March 31, 2023.

21

22

1 **Q. Please explain the Inflation Factor appearing on Schedule C-4.1.i of Exhibits 1-A and**  
2 **1-B through 1-G.**

3 A. The Inflation Factor appearing on Schedule C-4.1.i is utilized to calculate the impact of  
4 inflation on the Company's expenses in the FTY and FPFTY. The Company utilizes the  
5 Blue Chip Economic Indicators to pull the quarterly CPI percentage change from the same  
6 quarter in the prior year. For the FTY, the Company utilizes the forecasted percentage  
7 change for each quarter to calculate an annual average and then multiplies that by the  
8 expenses subject to inflation. Since the forecast is not available for the quarters in the  
9 FPFTY, the Company uses the last available forecasted quarterly percentage change and  
10 uses that as the annual rate to multiply inflation eligible expenses. The index data for both  
11 adjustments was obtained from the Blue Chip Economic Indicators, dated October  
12 10,2020. Data for the first quarter of 2022 is not available in the report; therefore, data  
13 from the prior quarter was used. The calculation for the annual rate used to adjust inflation  
14 eligible expenses by can be found within Schedule C-4.1.i in both Exhibits 1-A and 1-B  
15 through 1-G.

16 **Q. Please explain the Company's claim for rate case expense of \$2,200,000 presented on**  
17 **Schedule C-4.4 of Exhibit 1-A and 1-B through 1-G.**

18 A. The adjustments in Schedules C-4.4 reflect the estimated costs of this rate case. 91.51%  
19 of the total cost is being allocated to the water cost of service and 8.49% is being allocated  
20 to the wastewater cost of service based on the ratio of customers served to total customers.  
21 The Company proposes to normalize this cost over a thirty-six month period, which is the  
22 anticipated interval between this and the Company's next base rate case.

23

1 **Q. Please explain the miscellaneous adjustments shown in Schedule 4.9 of Exhibits 1-A**  
2 **and 1-B.**

3 A. Schedule 4.9 adjusts for various expenses that had not been incurred at normal levels due  
4 to the HTY occurring during a period that was not representative of a normal operating  
5 year. Expenses that are being increased and returned to their three-year averages include  
6 work travel expenses, seminar and education expenses, office supply expenses, and other  
7 activities and events expenses that had been limited by the impact of the COVID-19  
8 pandemic. The DEP expense adjustment that is being made in the HTY is to correctly  
9 account for DEP fees that will be incurred due to a population increase at one of the  
10 Company's systems.

11 Schedule 4.9 also adjusts to remove various transactions that were not appropriate  
12 to leave in the HTY, including the purchasing of safety supplies that were related to the  
13 COVID-19 pandemic. As these expenditures are not recurring regular business expenses  
14 and are not representative of expenses that the Company would incur during a normal  
15 business year, these expenses were removed from the HTY expenses.

16 **Q. Are similar adjustments included in Schedule 4.9 with respect to Exhibits 1-C**  
17 **through 1-G?**

18 A. Yes, in specific instances. For example, Schedule 4.9 of Exhibit 1-C contains an  
19 adjustment to the historic period regarding sludge hauling expense normalization.  
20 However, Exhibits 1-D and 1-E do not contain any adjustments in this schedule.

21  
22

1 **Q. Please explain the Specific Expense Not Subject to Inflation shown in Schedule C-4.10**  
2 **of Exhibits 1-A and 1-B.**

3 A. This schedule lists those expenses that are not separately adjusted for or are otherwise not  
4 subject to growth from inflation. As I explained earlier, these expenses were eliminated  
5 from the operating expenses subject to the inflationary adjustment in Schedule C-4.1.

6 **Q. Are similar expenses included in Schedule 4.10 with respect to Exhibits 1-C through**  
7 **1-G?**

8 A. Yes, Exhibit 1-E contains expenses not subject to growth from inflation. However,  
9 Exhibits 1-C, 1-D, 1-F and 1-G do not contain any expenses that were eliminated from the  
10 operating expenses subject to the inflationary adjustment in Schedule C-4.1.

11 **Q. Please explain the Dredging Expense adjustment shown in Schedule C-7.3 of Exhibit**  
12 **1-A.**

13 A. The Company sets forth an adjustment to the Dredging Expense with respect to water  
14 operations to reflect changes in the dredging process. Previously, the fixed cost portion of  
15 dredging, or the mobilization and demobilization costs of the equipment, had occurred  
16 three times over a three-year span at a run rate of approximately \$150,000 each time the  
17 equipment needed to be set up and removed. Moving forward, the mobilization and  
18 demobilization will only be occurring once over a three-year span, ultimately reducing  
19 operating expense by approximately \$300,000 over those three years. The Company will  
20 dredge once every three years on an as needed basis and is seeking special accounting  
21 treatment to accrue for the dredging costs each year. Specifically, the Company is  
22 requesting to accrue a reserve exclusively for dredging costs at a rate of \$400,000 per year.  
23 As actual dredging costs are incurred, they will be charged against the reserve accordingly.

1 The reserve would be recorded as a regulatory liability on the Company's books and will  
2 be reviewed for reasonableness or future adjustment in each base rate case proceeding. The  
3 concept is similar to reserves established for tank painting in jurisdictions where tank  
4 painting is not capitalized as an asset. This will better align the cost recovery in rate making  
5 to the operating expense incursion, which is not systematic and can vary upon water quality  
6 conditions. The expense will be incurred, it is only a matter of when.

7 **Q. Please explain the adjustment to Legal Expense shown in Schedule C-9.1 of Exhibit**  
8 **1-A.**

9 A. The Company incurs costs for general legal services during the normal course of business  
10 to protect and defend the Company's interest in a variety of legal matters. This adjustment  
11 normalizes the Company's legal expense claim, exclusive of base rate case expense, to  
12 levels that are expected to be realized during the first year rates are in effect and more in  
13 line with prior experiences. The three-year average for legal expenses has been utilized to  
14 ensure that the Company's legal expenses will be representative of what it can expect to  
15 incur in a normal year.

16 **Q. Please explain the adjustment to eliminate National Association of Water Companies**  
17 **("NAWC") Lobbying Expense.**

18 A. Consistent with past rate cases, the lobbying portion of the annual dues paid to the NAWC  
19 has been removed from the Company's operation expense claim. The resulting adjustment  
20 reduced pro-forma operating expense by \$37,175.



**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**DOCKET NOS. R-2021-3027385, R-2021-3027386**

**AQUA PENNSYLVANIA, INC.  
AQUA PENNSYLVANIA WASTEWATER, INC.**

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**PREPARED DIRECT TESTIMONY OF  
CHRISTOPHER M. HENKEL**

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**Topics Addressed:**

**Certain Expense Adjustments and Adjustment Clauses**

DATE SERVED: August 20, 2021  
DATE ADMITTED: \_\_\_\_\_

**Aqua Statement No. 4**

1 **I. INTRODUCTION AND SCOPE OF TESTIMONY**

2 **Q. What is your name and business address?**

3 A. My name is Christopher M. Henkel. My business address is 762 W. Lancaster Avenue,  
4 Bryn Mawr, Pennsylvania 19010.

5 **Q. By whom are you employed and in what capacity?**

6 A. I am employed by Aqua Pennsylvania, Inc. as a Finance and Rates Analyst II.

7 **Q. On whose behalf are you providing this direct testimony?**

8 A. I am providing this testimony on behalf of Aqua Pennsylvania, Inc. and Aqua Pennsylvania  
9 Wastewater, Inc. (collectively “Aqua PA”, “AP”, or the “Company”).

10 **Q. Please describe your education and business experience.**

11 A. I graduated from Millersville University in 2016 with a Bachelor of Science degree in  
12 Business Administration/Finance. I have also completed the Utility Rate School course  
13 sponsored by the National Association of Regulatory Utility Commissioners.

14 I have been employed by Aqua PA since May 26, 2020. Prior to that, I worked at  
15 the Pennsylvania Public Utility Commission (“PUC” or the “Commission”) as a Fixed  
16 Utility Financial Analyst. In this role, I participated in several rate case proceedings on  
17 behalf of the Commission’s Bureau of Investigation and Enforcement (“I&E”). That role  
18 required me to research and become knowledgeable about public utility laws, rules, and  
19 regulations. I also prepared written testimony and created detailed exhibits of financial  
20 information. After gaining experience in rate case proceedings, I served as an expert  
21 witness in proceedings involving Section 1307(f) purchased gas costs, acquisitions of  
22 utilities, and applications to expand natural gas service into unserved territories.

23 **Q. What are your duties as a Finance and Rates Analyst?**

1 A. My duties include assisting in the preparation of various financial regulatory filings  
2 submitted with the Commission. Those filings include but are not limited to the following:  
3 Quarterly Earnings Reports, Distribution System Improvement Charge (“DSIC”)  
4 Surcharge filings, water and wastewater tariff compliance filings, and other regulatory  
5 compliance filings upon request of the PUC. My duties also include the preparation of  
6 base rate cases and supporting those applications as an accounting witness.

7 **Q. What is the purpose of your testimony?**

8 A. The purpose of my testimony is to: (1) identify and describe the Purchased Water  
9 Adjustment and Energy Cost Adjustment Mechanism clauses set forth in the Company’s  
10 proposed tariff for the instant proceeding; and (2) identify and describe certain expense  
11 adjustments in Exhibits 1-A and 1-B through 1-G in support the Company’s proposed rate  
12 increase for water and wastewater operations, respectively, including: (a) insurance  
13 expense, (b) purchased power expense, (c) chemicals expense, (d) purchased water  
14 expense, and (e) purchased wastewater treatment expense.

15 **II. PURCHASED WATER ADJUSTMENT CLAUSE**

16 **Q. What is the Purchased Water Adjustment (“PWA”) Clause?**

17 A. The PWA is an adjustment clause that the Company is proposing to address increases and  
18 decreases in the rates charged by non-affiliated suppliers from whom the Company  
19 purchases water. The PWA is included as a rider in the proposed water tariff, Tariff Water-  
20 PA P.U.C. No. 3, submitted with this filing and describes the mechanics of the clause.

21

22

1 **Q. Are you aware of any other regulated water utilities that utilize a Purchased Water**  
2 **Adjustment Clause that was approved by the PUC?**

3 A. My understanding is that the Commission approved a PWA for Newtown Artesian Water  
4 Company (“NAWC”).

5 **Q. Why did the PUC find that a PWA was in the public interest in the NAWC case?**

6 A. Among other things, the PUC found that the inclusion of a PWA in the tariff for NAWC  
7 reduced regulatory lag, included a 3% cap on the surcharge billed to NAWC customers and  
8 contained an audit and reconciliation process to safeguard customers.

9 **Q. How does the PWA proposed by Aqua PA in this proceeding balance the interest of**  
10 **the Company and its customers?**

11 A. Non-affiliated suppliers may change the rates they charge for water sold to the Company  
12 for resale to Aqua PA’s customers between rate cases. If rates are increased, the  
13 Company cannot recover those costs until the next rate case is filed; if rates are  
14 decreased, the customer must wait until the next rate case to benefit from that reduced  
15 cost. Additionally, the Company is including a 3% cap to its proposed PWA as well as  
16 an audit and reconciliation process to protect its customers from unjust and unreasonable  
17 rates.

18 **Q. How would the PWA operate?**

19 A. The PWA would adjust customers’ bills by adding a charge or credit to reflect increases or  
20 decreases, respectively, in the Company’s “Baseline Cost.” The Baseline Cost is the  
21 annual purchased water costs approved as an operating expense in the Company’s last base  
22 rate case. When one or more of the Company’s suppliers change the rates for water  
23 purchased by the Company, the Company will re-compute its annual purchased water costs

1 based on the level of consumption and other billing determinants that formed the basis for  
2 the Company's calculation of its Baseline Cost. If there is a change in purchased water  
3 costs above or below the Baseline Cost, a charge or credit, as applicable, would be added  
4 to customers' bills. More precisely, the PWA provides the Company the ability to  
5 implement a charge to recover an increase in purchased water costs above the Baseline  
6 Cost or a credit to pass back savings from a decrease in purchased water costs below the  
7 Baseline Cost.

8 **Q. Why is a PWA being proposed?**

9 A. The Company purchases water from a number of different suppliers in order to meet its  
10 customers' demands on a reliable and cost-effective basis. Many of the Company's  
11 suppliers are municipalities or municipal authorities. As such, they can implement rate  
12 increases quicker and more frequently than public utilities that are regulated by the  
13 Commission and the rate increases become effective even if they are contested by one or  
14 more customers. As a result, the Company's water suppliers frequently implement rate  
15 increases at times that do not coincide with base rate cases filed by the Company and well  
16 before the Company could reasonably expect to file a base rate case to reflect those  
17 increases in its rates. As a consequence, the Company experiences a lag between the time  
18 its suppliers increase their rates and when the Company can recover those increases in the  
19 rates it charges its customers. The PWA would help to reduce this lag.

20 **Q. Describe the audit and reconciliation process included in the proposed PWA.**

21 A. The operation of the PWA will be subject to audit by the Commission and will also be  
22 subject to an annual reconciliation process. This is included in the proposed tariff rider.  
23 *See Tariff Water-PA P.U.C. No. 3.* In addition, the proposed audit and reconciliation

1 process would allow interested parties to examine (a) the Company's costs to purchase  
2 water, including the prudence of its decision to purchase water rather than develop its own  
3 source of supply in a given area, (b) its efforts to minimize purchases from high-cost  
4 suppliers, and (c) its efforts to contest, stop, reduce or delay rate increases by its suppliers  
5 at the time a PWA charge is implemented. This examination could occur at either the time  
6 of the annual reconciliation or in subsequent base rate proceedings. Consequently, the  
7 purchased water costs recovered through the PWA could be subject to greater scrutiny than  
8 a claim for recovery of purchased water costs made solely in a base rate case, where it is  
9 only one of many issues competing for the attention of the parties. For this reason, among  
10 others, the Company would have ample incentive to take advantage of every reasonable  
11 opportunity to prevent increases and pursue decreases in its purchased water costs, which  
12 will benefit its customers.

### 13 III. ENERGY COST ADJUSTMENT MECHANISM

14 **Q. What is the Energy Cost Adjustment Mechanism ("ECAM")?**

15 A. The ECAM is an adjustment clause that the Company is proposing to capture changes in  
16 its energy costs (*i.e.*, electric and gas costs). Such a mechanism ensures that the Company  
17 recovers the costs of energy used to provide water service to its customers and only those  
18 costs. Customers also benefit from any and all of the Company's efforts to control costs  
19 as well as having the assurance that, if energy prices fall from current levels, they benefit  
20 from those market-driven reductions. My understanding is that this mechanism would fall  
21 under Section 1307.

1 **Q. How would the ECAM work?**

2 A. The mechanism would collect or refund any difference between the energy costs included  
3 in base rates from the Company's last rate filing and the actual energy costs incurred in the  
4 period of calculation. Within 60 days after the end of each calendar year, the Company  
5 would file a reconciliation of its actual costs to the amount recovered in base rates per  
6 actual thousand gallons sold as established in the last rate case. Any increase or decrease  
7 in these costs would be divided by the projected normalized volumes increased for growth  
8 to develop a volumetric surcharge/surcredit applied to metered customers in the following  
9 12-month period. In this way, the Company is protected from uncontrollable increases in  
10 costs and customers will receive the benefit of decreases if those costs are less than those  
11 included in rates. The ECAM is included as a rider in the proposed tariff submitted with  
12 this filing and describes the mechanics of the clause. At the end of a 12-month period, the  
13 amount refunded/collected via the mechanism would be compared to the actual costs to be  
14 refunded/collected and the difference would be added or subtracted to the difference to be  
15 recovered/refunded in the following period.

16 **Q. Does the ECAM reduce Aqua PA's incentive to implement energy-saving practices  
17 and technologies?**

18 A. No. The Company's incentive to reduce operating costs remains an important tenant of its  
19 regulatory compact with customers and regulators in the delivery of safe, adequate, and  
20 reliable utility service.

21

22

23

1 **IV. OPERATING EXPENSE ADJUSTMENTS**

2 **Q. Please explain the adjustment to Insurance Expense on Schedule C-4.6 of Exhibits 1-**  
3 **A (Water) and 1-B through 1-G (Wastewater).**

4 A. Aqua PA holds insurance policies for General Liability, Auto Liability, Workers  
5 Compensation, and Miscellaneous Other (Surety Bonds, Property, etc.) forms of coverage.  
6 These policies are annually reviewed and analyzed by the Company and its third-party  
7 insurance broker and carrier, utilizing a multi-year claims history, to determine the required  
8 reserve for each type of insurance. For water operations, the historic test year (“HTY”)  
9 insurance claim was based on actual premiums experienced in 2021. For the twelve months  
10 ended December 31, 2017 to the twelve months ended December 31, 2021, the Company’s  
11 insurance expense line realized an average year-over-year increase of 5.97%. This average  
12 increase was applied to the actual premiums experienced in 2021 to derive the claimed  
13 amounts for the future test year (“FTY”) ended March 31, 2022 and fully projected future  
14 test year (“FPFTY”) ending March 31, 2023. The total insurance amounts were adjusted to  
15 remove that portion of insurance cost which is not charged to operating expense. For  
16 wastewater operations, the same methodology was applied to derive the FTY and FPFTY  
17 claims; however, the total wastewater insurance expense was then allocated to each  
18 division (Exhibits 1-B through 1-G) on the basis of the number of customers served.

19 **Q. Please explain the adjustment to Purchased Power detailed in Schedule C-6.1 of**  
20 **Exhibits 1-A and 1-B through 1-G.**

21 A. The Purchased Power Expense in the above-referenced Exhibits consists of two  
22 components: (1) Electric (Schedule C-6.1.i), and (2) Gas (Schedule C-6.1.ii).

1           The electric purchased power expense is projected to decrease in the FTY and  
2           FPFTY based upon rates contracted through the FPFTY. Current rates are used to  
3           determine the electric costs for the HTY. Increases to electric rates were assumed for plants  
4           that receive electric power from PECO and UGI Electric based upon rate cases filed by  
5           those companies with the PUC. Non-contracted electric power supply rates were escalated  
6           by 2.1% annually based upon estimates from the U.S. Energy Information Administration  
7           (“EIA”).

8           In the gas purchased power expense claim, as shown on Schedule C-6.1.ii, costs for  
9           the HTY are based on current rates. The FTY and FPFTY costs were escalated at an annual  
10          rate of 1.20% based on EIA estimates.

11 **Q. Does Exhibit 1-E (WW Cheltenham) include a claim for purchased power in this**  
12 **proceeding?**

13 A. No. The Cheltenham Wastewater Division (Exhibit 1-E) has no claim for purchased power  
14 expense because its flows are treated by Philadelphia Water Department (“PWD”). All  
15 expenses resulting from the treatment of Cheltenham flows are billed to Aqua PA by PWD  
16 and recorded as Purchased Wastewater.

17 **Q. Please provide some examples that show how Aqua PA implements cost-reduction**  
18 **practices with respect to purchased power.**

19 A. With respect to its water operations, the Company also participates in supply, utility and  
20 PJM peak and demand response programs where possible to reduce electric costs.  
21 Additionally, the Company utilizes solar generated power at its Pickering and Ingrams Mill  
22 treatment plants that produce electric savings in the form of usage reductions. Both the  
23 program-related costs savings and solar power-related usage reductions are shown in

1 Schedule C-6.1.i of Exhibit 1-A. Notably, the Company's claim for purchased power in  
2 this proceeding substantially decreases from the HTY through the future test years.

3 **Q. Please explain the adjustment to Chemicals Expense in Schedule C-6.2 of Exhibits 1-**  
4 **A and 1-B through 1-G.**

5 A. The Company utilizes various chemicals in the water and wastewater treatment process. In  
6 order to secure the best available pricing, the Company conducts a competitive bidding  
7 process to establish unit price contracts for the chemical requirements at its various  
8 treatment plants. The claim for chemical expense in Schedule C-6.2 for Exhibit 1-A was  
9 developed by first determining the cost per million gallons produced for the HTY. This  
10 cost was then further increased in both the FTY and FPFTY by the compound annual  
11 growth rate of 3.45% for the period from the twelve months ended March 2018 through  
12 the twelve months ended March 2021. The resulting cost per million gallons was  
13 multiplied by the production sent out in millions of gallons for the twelve months ended  
14 March 31, 2021, to arrive at the chemical expense rate adjustments for both the FTY and  
15 FPFTY. The claim for chemical expense in Schedule C-6.2 of Exhibits 1-B through 1-G  
16 was calculated by taking the average chemical expense for the three years ended March 31,  
17 2021 to arrive at the claim for the FTY and FPFTY. However, the Company notes that  
18 certain wastewater systems do not include any claims for adjustments to chemical expense  
19 in this case (e.g., Exhibit 1-D (WW East Bradford)).

1 **Q. Please explain the adjustment to Purchased Water Expense detailed in Schedule C-**  
2 **7.1 of Exhibit 1-A.**

3 A. The purchased water expense claim was generally derived by taking HTY gallons, and then  
4 applying current rates. The FPFTY claim includes an assumed rate decrease from the PWD  
5 that is expected to become effective in September 2021.

6 **Q. Explain the adjustment to Purchased Wastewater Treatment Expense in Schedule C-**  
7 **7.1 of Exhibits 1-B through 1-G.**

8 A. The Company's claim for purchased wastewater treatment expense in Exhibit 1-B  
9 normalizes the cost of services provided by two wastewater treatment providers for the  
10 Company's Beech Mountain and Village at Valley Forge service areas. The service  
11 providers are Butler Township Sewer Authority and Upper Merion Sewer. Exhibits 1-C  
12 through 1-G include various adjustments based on assumptions made for each wastewater  
13 system; however, the Company notes that certain wastewater systems do not include any  
14 claims for adjustments to Purchased Wastewater Treatment Expense in this case (e.g.,  
15 Exhibit 1-C (WW Limerick)). Schedule 7.1 in each of these exhibits identifies assumptions  
16 applicable to any adjustments for each wastewater system or indicates that no adjustments  
17 are being claimed.

18 **V. CONCLUSION**

19 **Q. Does that conclude your testimony at this time?**

20 A. Yes, it does, but I reserve the right to supplement my testimony as needed during this  
21 proceeding.

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**DOCKET NOS. R-2021-3027385, R-2021-3027386**

**AQUA PENNSYLVANIA, INC.  
AQUA PENNSYLVANIA WASTEWATER, INC.**

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**PREPARED DIRECT TESTIMONY OF  
CONSTANCE E. HEPPENSTALL**

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**Topics Addressed:**

**Cost of Service Allocation  
Customer Rate Design**

DATE SERVED: August 20, 2021  
DATE ADMITTED: \_\_\_\_\_

**Aqua Statement No. 5**

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

RE: AQUA PENNSYLVANIA, INC.  
DOCKET R-2021-3027385 AND R-2021-3027386

DIRECT TESTIMONY OF CONSTANCE E. HEPPESTALL

1 **Q. Please state your name and address.**

2 A. My name is Constance E. Heppenstall. My business address is 1010 Adams  
3 Avenue, Audubon, Pennsylvania.

4 **Q. By whom are you employed?**

5 A. I am employed by Gannett Fleming Valuation and Rate Consultants, LLC.

6 **Q. Please describe your position with Gannett Fleming Valuation and Rate  
7 Consultants, LLC, and briefly state your general duties and responsibilities.**

8 A. My title is Senior Project Manager, Rate Studies. My duties and responsibilities  
9 include the preparation of accounting and financial data for revenue requirement  
10 and cash working capital claims, the allocation of cost of service to customer  
11 classifications, and the design of customer rates in support of public utility rate  
12 filings.

13 **Q. Have you presented testimony in rate proceedings before a regulatory  
14 agency?**

15 A. Yes. I have testified before the Pennsylvania Public Utility Commission ("PA  
16 PUC" or the "Commission"), the Arizona Corporation Commission, the Kentucky  
17 Public Service Commission, the Virginia State Corporate Commission, the  
18 Missouri Public Service Commission, the Hawaii Public Service Commission, the  
19 West Virginia Public Service Commission, the Indiana Utility Regulatory  
20 Commission, the California Public Utility Commission and the New Jersey Board

1 of Public Utilities concerning revenue requirements, cost of service allocation and  
2 rate design. A list of cases in which I have testified is attached to my testimony.

3 **Q. What is your educational background?**

4 A. I have a Bachelor of Arts in Economics from the University of Virginia,  
5 Charlottesville, Virginia and a Master of Science in Industrial Administration from  
6 the Tepper School of Business at Carnegie-Mellon University, Pittsburgh,  
7 Pennsylvania.

8 **Q. Would you please describe your professional affiliations?**

9 A. I am a member of the American Water Works Association, the National  
10 Association of Water Companies, and the Pennsylvania Municipal Authorities  
11 Association.

12 **Q. Briefly describe your work experience.**

13 A. I joined the Valuation and Rate Division of Gannett Fleming, Inc. in August 2006,  
14 as a Rate Analyst and was promoted to my current position in 2012. Prior to my  
15 employment at Gannett Fleming, Inc., I was a Vice President of PriMuni, LLP  
16 where I developed financial analyses to test proprietary software in order to  
17 ensure its pricing accuracy in accordance with securities industry's conventions.  
18 From 1987 to 2001, I was employed by Commonwealth Securities and  
19 Investments, Inc. as a public finance professional where I created and  
20 implemented financial models for public finance clients in order to create debt  
21 structures to meet clients' needs. From 1986 to 1987, I was a public finance  
22 associate with Mellon Capital Markets.

1 **Q. What is the purpose of your testimony in this proceeding?**

2 A. My testimony is in support of the cost of service allocation and rate design  
3 studies conducted under my direction and supervision for the combined water  
4 and wastewater utility plants of Aqua Pennsylvania, Inc. and Aqua Pennsylvania  
5 Wastewater, Inc. (collectively “Aqua AP” or the “Company”).

6 **Q. Have you prepared exhibits presenting the results of your studies?**

7 A. Yes. Exhibit No. 5-A, Part I presents the results of the water allocation of the pro  
8 forma cost of service as of March 31, 2023. Exhibit No. 5-A, Part II presents the  
9 application of water rates to the customers' consumption analysis. Exhibit No. 5-  
10 B, Part I presents the results of the wastewater allocation of the pro forma cost of  
11 service as of March 31, 2023 for Wastewater Base Operations and separately for  
12 Limerick, East Bradford, Cheltenham, East Norriton, and New Garden divisions.  
13 Exhibit No. 5-B, Part II presents the application of wastewater rates to the  
14 customers' consumption analysis for the same wastewater operations and  
15 divisions. Exhibit 5-C presents the potential rate design if a wastewater cap was  
16 implemented for Wastewater Base Operations.

17 **WATER - COST OF SERVICE ALLOCATION**

18 **Q. Briefly describe the purpose of your cost allocation study in Exhibit 5-A,**  
19 **Part I.**

20 A. The purpose of the study was to allocate the total water cost of service, which is  
21 the total revenue requirement, to the several customer classifications. The cost  
22 of service study includes the total operations of the several service areas across  
23 the State encompassing AP. In the study, the total costs were allocated to the

1 residential, commercial, industrial, public, other water utilities, private fire  
2 protection and public fire protection classifications in accordance with generally-  
3 accepted principles and procedures. The cost of service allocation results in  
4 indications of the relative cost responsibilities of each class of customers. The  
5 allocated cost of service is one of several criteria appropriate for consideration in  
6 designing customer rates to produce the required revenues.

7 **Q. Have you prepared an exhibit presenting the results of your studies?**

8 A. Yes. As previously noted, the results of my allocation of the pro forma cost of  
9 service as of March 31, 2023, are presented in Exhibit No. 5-A, Part I.

10 **Q. Please describe the method of cost allocation that was used in your study.**

11 A. The base-extra capacity method, as described in the 2017 and prior Water Rates  
12 Manuals published by the American Water Works Association ("AWWA"), was  
13 used to allocate the pro forma costs. This method is a recognized method for  
14 allocating the cost of providing water service to customer classifications in  
15 proportion to the classifications' use of the commodity, facilities and services. It  
16 is generally accepted as a sound method for allocating the cost of water service  
17 and has been used by the Company and accepted by this Commission in the  
18 Company's rate cases for over 30 years.

19 **Q. Is the method described in Exhibit No. 5-A, Part I?**

20 A. Yes. It is described on pages 3 and 4 of the exhibit.

21 **Q. Please describe the procedure followed in the cost allocation study.**

22 A. Each identified classification of cost in the pro forma cost of service was  
23 allocated to the customer classifications using appropriate allocation factors.

1 This allocation is presented in Schedule D on pages 10 through 16 of Exhibit No.  
2 5-A, Part I. The account numbers and associated items of cost, which include  
3 operation and maintenance expenses, depreciation expense, taxes and income  
4 available for return, are identified in columns 1 and 2 of Schedule D. The cost of  
5 each item, shown in column 4, is allocated to the several customer classifications  
6 based on allocation factors referenced in column 3. The development of the  
7 allocation factors is presented in Schedule E of the exhibit.

8 I will use some of the larger cost items to illustrate the principles and  
9 considerations used in the cost allocation methodology. Water purchased for  
10 resale, purchased electric power and treatment chemicals are examples of costs  
11 that tend to vary with the amount of water consumed and are thus considered  
12 base costs. They are allocated to the several customer classifications in direct  
13 proportion to the average daily consumption of those classifications using Factor  
14 1. The development of Factor 1 is shown in Schedule E of Exhibit No. 5-A, Part I.

15 Other sources of supply, pumping, purification, and transmission costs are  
16 associated with meeting usage requirements in excess of the average, generally  
17 to meet maximum day requirements. Costs of this nature were allocated to  
18 customer classifications partially as base costs, proportional to average daily  
19 consumption, partially as maximum day extra capacity costs, in proportion to  
20 maximum day extra capacity, and, in the case of certain pumping stations and  
21 transmission mains, partially as fire protection costs, through the use of Factors 2  
22 and 3. The development of the allocation factors, referenced as Factors 2 and 3,  
23 is shown in Schedule E of Exhibit No. 5-A, Part I. Costs associated with

1 distribution mains and storage facilities were allocated partly on the basis of  
2 average consumption and partly on the basis of maximum hour extra demand,  
3 including the demand for fire protection service, because these facilities are  
4 designed to meet maximum hour and fire demand requirements. The  
5 development of the factors, referenced as Factors 4 and 5, used for these  
6 allocations is shown in Schedule E of Exhibit No. 5-A, Part I. Fire demand costs  
7 were allocated to public and private fire protection service and general service in  
8 proportion to the relative potential demands on the system by hydrants, fire  
9 services and commercial service lines sized to provide both fire protection and  
10 general service, as presented in Schedule G of Exhibit No. 5-A, Part I.

11 Costs associated with pumping facilities were allocated on combined  
12 bases of maximum day, maximum day including fire and maximum hour extra  
13 capacity because these facilities serve these functions. The relative weightings  
14 of Factor 2 (maximum day), Factor 3 (maximum day with fire) and Factor 4  
15 (maximum hour) for pumping facilities were based on the functional use of  
16 pumps and footage of mains, serving maximum day and maximum hour  
17 functions. The weighted factors are developed on pages 19 and 21 of Exhibit No.  
18 5-A, Part I.

19 Costs associated with meters and services facilities were allocated to  
20 customer classifications in proportion to the capital costs of the sizes and  
21 quantities of meters and services serving each classification. The development  
22 of factors for meters and services, referenced as Factor 7 and Factor 8, is  
23 presented in Exhibit No. 5-A, Part I.

1           Costs for customer accounting, billing and collecting were allocated based  
2 on the number of bills for each classification, and costs for meter reading were  
3 allocated on the basis of the number of bills rendered to metered customers.  
4 The development of these factors, referenced as Factor 9 and Factor 10, in  
5 Exhibit No. 5-A, Part I.

6           Administrative and general costs were allocated based on allocated direct  
7 costs excluding those costs such as purchased water, power and chemicals  
8 which require little administrative and general expense. The development of  
9 factors for this allocation, referenced as Factor 14, in Exhibit No. 5-A, Part I.

10           Annual depreciation accruals were allocated based on the function of the  
11 facilities represented by the depreciation expense for each depreciable plant  
12 account. The original cost less depreciation of utility plant in service was  
13 similarly allocated for the purpose of developing factors, referenced as Factor 18,  
14 for allocating items such as income taxes and return. The development of Factor  
15 18 in Exhibit No. 5-A, Part I.

16 **Q. What was the source of the total cost of service data set forth in column 4**  
17 **of Schedule D of Exhibit No. 5-A, Part I?**

18 A. The pro forma costs of service were furnished by the rate department of the  
19 Company, and are set forth in Exhibit No. 1-A.

20 **Q. Refer to Schedule E of Exhibit No. 5-A, Part I, and explain the source of the**  
21 **system maximum day and maximum hour ratios used in the development**  
22 **of factors referenced as Factors 2, 3, 4 and 5.**

1 A. The ratios were based on a review of experienced Company data set forth on  
2 Schedule F of Exhibit No. 5-A, Part I. The maximum day ratio of 1.4 times the  
3 average day approximates the ratio of maximum daily send-out experienced by  
4 the Company in 1999, 2001, 2010, and 2011, the year in which the most recent  
5 maximum day delivery was experienced. The maximum hour ratio of 2.0 times  
6 the average hour approximates the peak hour consumption experienced by the  
7 Company in 1995, 1997, 2001, 2010, and 2011.

8 **Q. Are the system maximum day and maximum hour ratios the same as the**  
9 **ratios used in the study presented in Docket No. R-2018-3003561**

10 A. Yes, they are.

11 **Q. What factors were considered in estimating the maximum day extra**  
12 **capacity and maximum hour extra capacity demands used for the customer**  
13 **classifications in the development of Factors 2, 3, 4 and 5?**

14 A. The estimated demands were based on judgment that considered field studies of  
15 customer class demands conducted for the Company, field observations of the  
16 service areas of the Company, field studies of similar service areas in  
17 Pennsylvania conducted by my firm, and generally-accepted customer class  
18 maximum day and maximum hour demand ratios. The study of customer class  
19 demands was initiated in 1991 with the selection and monitoring of Residential  
20 customers and neighborhoods. Monitoring continued for these customers with  
21 some additional modifications and for customers from other classes. The results  
22 of the demand study are presented in the Appendix of Exhibit No. 5-A, Part I. A

1 discussion of the specific factors considered for each class also is presented in  
2 the Appendix.

3 **Q. Are the customer class extra capacity factors the same as those used in**  
4 **the most recent cost of service study for the Company?**

5 A. Yes, they are.

6 **Q. Please describe why the unrecovered portion of public fire protection is**  
7 **allocated to other classes.**

8 A. The study reallocates the unrecovered portion of public fire protection to the  
9 residential, commercial, industrial, and public classifications. This was done  
10 pursuant to Section 1328 of the Public Utility Code which states that public fire  
11 hydrant rates only need to recover 25% of the cost of service and the  
12 unrecovered portion should be recovered in the other classes' fixed charges.  
13 Effectively, the statute has reassigned the unrecovered costs to other classes,  
14 and it is appropriate to reflect that reassignment in the cost of service.

15 **Q. How did you allocate the unrecovered portion of public fire service?**

16 A. Based on the requirement that these costs are to be recovered in fixed charges, I  
17 allocated the unrecovered public fire costs using Factor 21, which is based on  
18 the meter equivalents of the residential, commercial, industrial, and public  
19 classifications.

20 **Q. Have you summarized the results of your cost allocation study?**

21 A. Yes. The results are summarized in columns 1, 2 and 3 of Schedule A in Exhibit  
22 No. 5-A, Part I. Column 2 sets forth the total allocated pro forma cost of service  
23 as of March 31, 2023, for each customer classification identified in column 1.

1 Column 5 presents each customer classification's cost responsibility as a percent  
2 of the total cost.

3 **Q. Have you compared these cost responsibilities with the proportionate**  
4 **revenue under existing rates for each customer classification?**

5 A. Yes. A comparison of the allocated cost responsibilities and the percentage  
6 revenue under existing rates can be made by comparing columns 5 and 7 of  
7 Schedule A of Exhibit 5-A, Part I. A similar comparison of the percentage cost  
8 responsibilities (relative cost of service) and the percentage of pro forma  
9 revenues (relative revenues) under proposed rates can be made by comparing  
10 columns 5 and 9 of Schedule A of Exhibit No. 5-A, Part I.

11 **Q. How was the amount of Act 11 cost to be recovered in water rates**  
12 **determined?**

13 A. The amount of Act 11 recovery was determined by subtracting the proposed level  
14 of wastewater revenue after various increases from the pro forma cost of  
15 wastewater service for the twelve months ended March 31, 2023 from the  
16 revenue requirement for each area. The Act 11 allocation by class is equal to on  
17 the wastewater cost of service by class less proposed revenues.

18 **WATER RATE DESIGN**

19 **Q. Is the proposed rate structure presented in an exhibit?**

20 A. Yes. A comparison of the present and proposed rate schedules is presented in  
21 the response to Standard Data Request OR-3 and on Schedule I.

22 **Q. What are the appropriate factors to be considered in the design of the rate**  
23 **structure?**

1 A. In preparing a rate structure, one should consider the allocated costs of service,  
2 the impact of radical changes from the present rate structure, the  
3 understandability and ease of application of the rate structure, community and  
4 social influences, and the value of service, particularly competitive concerns.  
5 General guidelines should be developed with management to determine the  
6 extent to which each of these criteria is to be incorporated in the rate structure to  
7 be designed, inasmuch as the pricing of a commodity or service ultimately should  
8 be a function of management.

9 **Q. Did you develop rate design guidelines during discussions with Company**  
10 **management?**

11 A. Yes, I did. The guidelines were: (1) maintain separate rate divisions for those  
12 areas with year-round usage and those areas with seasonal usage; (2) maintain  
13 a low-use block for the residential class at 2,000 gallons per month in each  
14 division, and a sixth block for the industrial classification for usage over 10 million  
15 gallons per month; (3) continue movement of those areas with year-round usage  
16 toward the Main Division rates; (4) increase existing Main Division private fire  
17 service line rates 17.5% and private hydrant charges by 20.6%; and (5) increase  
18 the existing Public Fire Hydrant rate up to the 25% of cost of service level. For  
19 those rate divisions with a public fire hydrant rate below \$25.86 per month,  
20 propose an increase so that achieving the State-wide rate can be accomplished  
21 in two or more rate cases.

22 **Q. Do the proposed rates comply with these guidelines?**

23 A. Yes, they do.

1 **Q. In what manner has the goal of rate equalization been continued for each of**  
2 **the divisions?**

3 A. In general, the proposed customer charges and consumption rates for these  
4 Divisions represent a movement toward the Main Division rates by varying  
5 degrees.

6 For Main Division, the 5/8-inch customer charge was set at \$22.40 per  
7 month. This represents a 24.4% base rate increase (16.9% over present rates  
8 including the Distribution System Improvement Charge (DSIC)). Base rates for  
9 all other meter sizes were increased by 24.4%. Consumption charges were  
10 increased so that revenues by class move toward cost of service indicators and  
11 to recover the total revenue requirement.

12 **Q. Please explain the proposed rates for all of the non-seasonal divisions.**

13 A. The following non-seasonal divisions are proposed to merge to Main Division in  
14 this case:

15 Zone 1 – CC Garden, Sand Springs, Mifflin Township, Mount Jewett, and  
16 Robin Hood rates will move fully to Rate Zone 1 rates. Beech Mountain and  
17 Bristol Township division rates will continue to move toward Zone 1 rates.

18 Zone 2 – will move fully to rates in Rate Zone 1 by raising the meter  
19 charges for 3/4-inch to 4-inch to the level of Rate Zone 1 rates. All other rates  
20 were previously equal to Zone 1 rates.

21 Two other areas, Bunker Hill and Phoenixville, rates were increased to  
22 move toward Zone 1 rates. The Company capped the rate increases for these  
23 two areas to 48%.

1 **Q. Please explain the rate structure for seasonal areas.**

2 A. The Zone 3 Division has a significant number of seasonal customers and will  
3 continue to be served under the merged seasonal rate design. The customer  
4 charge is increased to \$32.40 per month, but is offset with a lower first block  
5 consumption rate than Main Division for the first 4,000 gallons. The bills for the  
6 seasonal rate structure are equalized with Main Division at the 4,000 gallon  
7 average per month and greater consumption levels.

8 **Q. Please explain the concerns regarding competing sources of supply for**  
9 **Industrial, Public and Sales to Other Water Utilities customers.**

10 A. Many of the Company's very large customers are capable of developing  
11 alternative sources of water. To avoid the loss of very large customers from  
12 which the Company recovers a significant amount of its fixed costs, competitive  
13 service riders were proposed and approved in the Company's 1997 rate  
14 proceeding. The competitive service riders DIS (Demand-Based Industrial  
15 Service), DRS (Demand-Based Resale Service) and EGS (Electric Generation  
16 Service) enable the Company to retain customers who can develop water  
17 supplies at average costs per hundred gallons that are less than the Company's  
18 tariff rates. These customers, in return for a negotiated rate that is less than the  
19 tariff rate, are required to enter into a contract with the Company, purchase a  
20 minimum amount of water each month and maintain favorable load factors. The  
21 use of such riders retains the recovery of significant fixed costs from these  
22 customers that otherwise would have to be recovered from all other customers.

23 **Q. What are you proposing for the Main Division public fire hydrant rate?**

1 A. The present annual rate of \$310.32 per year is less than 25 percent of the annual  
2 cost per hydrant. Section 1328 of the Public Utility Code requires that public fire  
3 hydrant rates recover no more than 25 percent of the cost of service. The  
4 Company is proposing that the Main Division public fire hydrant rate be increased  
5 to this level.

6 **Q. What is the annual public fire hydrant cost of service?**

7 A. The annual cost of service for a public fire hydrant is \$1,495.05. The public fire  
8 cost at 25% of the cost of service is \$373.76 or \$31.15 per month.

9 **Q. What changes are proposed for the public fire hydrant rates in the other**  
10 **divisions?**

11 A. For those divisions where the existing rate per month is less than the current  
12 Main Division rate of \$25.86, the Company is capping the increase at 40%.  
13 Refer to Schedule 7B of Exhibit 5-A, Part II.

14 **Q. How were the present metered private fire rates increased under proposed**  
15 **rates?**

16 A. The present Main Division base rates for private fire service lines customers  
17 were increased approximately 26%. The Private Hydrant rates are increased by  
18 40% for those areas with rates lower than the Main Division. The Main Division  
19 Private Hydrant rates are increase by 18.8%. See Schedule 7A of Exhibit No. 5-  
20 A, Part II.

21 **Q. Please describe the development of the rates for the standby tariff.**

22 A. The proposed Industrial Standby Rates and Resale and Electric Generation  
23 Standby Rates include service, demand and commodity rates. The service

1 charges are the same as those set forth on the Schedule of Rates for the Main  
2 Division proposed in this case.

3 The demand and commodity rates are based on the results of the cost of  
4 service allocation to cost functions found in the Appendix of Exhibit No. 5-A, Part  
5 I. The firm standby demand charge includes fixed operating and capital costs in  
6 the base and extra capacity functions. The interruptible standby demand charge  
7 includes fixed operating costs in the base and extra capacity functions.

8 The commodity rate associated with deliveries pursuant to firm standby  
9 demand includes variable operating costs. The commodity rate associated with  
10 deliveries pursuant to interruptible standby demand includes variable operating  
11 costs and capital costs in the base and extra capacity functions. The commodity  
12 rate for deliveries in excess of the firm and interruptible standby demand is the  
13 rate for the first block for the Main Division.

14 **Q. Did you prepare a schedule to show the calculation of the standby rates?**

15 A. Yes. Schedule H of Exhibit No. 5-A, Part I, sets forth the calculation of the firm  
16 and interruptible standby rates based on the cost of service data submitted in this  
17 case.

18  
19 **WATER - APPLICATION OF RATES TO CUSTOMERS'**  
20 **CONSUMPTION ANALYSIS**  
21

22 **Q. Please describe Exhibits No. 5-A, Part II.**

23 A. Exhibit No. 5-A, Part II, titled "Operating Revenue from Sales of Water for the  
24 Twelve Months Ended March 31, 2023" presents the application of the present  
25 rates to the bill analysis for each rate division and the development of pro forma

1 revenues under present rates as of March 31, 2023, and the development of pro  
2 forma revenues under proposed rates based on estimated conditions during the  
3 fully projected future test year ended March 31, 2023.

4 **Q. What was the purpose of the rate application?**

5 A. The purpose of the rate application was to establish the level of revenues to be  
6 derived from each customer classification under present and proposed rates  
7 based on consumption for the twelve months ended March 31, 2021 and March  
8 31, 2023.

9 **Q. Please outline the contents of Exhibit No. 5-A, Part II.**

10 A. Exhibit No. 5-A, Part II, includes the plan of the exhibit, an explanation of the rate  
11 application procedures, summaries of the rate applications and the application of  
12 present rates to the several consumption analyses.

13 Schedule 1 presents the summary of pro forma revenues for the  
14 consolidated divisions under proposed rates for the twelve months ended March  
15 31, 2023.

16 Schedule 2 presents a summary of the application of proposed rates and  
17 the development of the pro forma revenues for the twelve months ended March  
18 31, 2023 under proposed rates for each division.

19 Schedule 3 presents a summary of the pro forma revenues for the  
20 consolidated divisions under present rates, for the twelve months ended March  
21 31, 2023.

22 Schedule 4 presents a summary of the application of revenues under  
23 present rates for the twelve months ended March 31, 2023 for each division.

1           Schedule 5 presents the application of present rates to the consumption  
2 analysis for each of the divisions. Schedule 6 presents adjustments to the  
3 application of present and proposed rates to Zone 1 that has experienced  
4 customers growth. In addition, Schedule 6 shows the adjustment in consumption  
5 due to the COVID-19 pandemic.

6 **Q. Please describe the COVID pandemic adjustment.**

7 A. The Company has assumed that consumption by class in the future will be  
8 similar to the usage patterns in the prior case, rather than the actual usage in the  
9 historic test year. Therefore, the Company adjusted usage by class to reflect this  
10 assumption. In the adjustment, usage by class is based on the average usage  
11 presented in the pro forma fully projected future test year in Docket No. R-2018-  
12 3003561. For example, the pro forma average usage in Zone 1 for the  
13 Residential class in the prior case was 4,068 gallons per month. This average  
14 was multiplied by the number of residential bills in the HTY in this case to obtain  
15 the total pro forma consumption for the residential class for the current HTY.  
16 The consumption was allocated to each block based on the ratio from the historic  
17 test year of the prior case. This procedure was also used for the Commercial  
18 and Public customer classes. The total overall change in revenue under present  
19 rates for this adjustment is a decrease of \$64,639. The Company is not  
20 proposing a declining usage adjustment in this case due to the unusual effects of  
21 the COVID-19 pandemic. However, the Company expects to utilize a declining  
22 consumption adjustment in future rate cases.

1 **Q. Please complete your discussion of the schedules included in Exhibit No.**  
2 **5-A, Part II.**

3 A. Schedules 7A and 7B set forth the application of rates under present and  
4 proposed metered private fire and private and public fire hydrants.

5 **Q. Please explain the calculations associated with the application of the rates**  
6 **to consumption.**

7 A. An analysis of customer consumption for the twelve months ended March 31,  
8 2021, was prepared by the Company, and was provided in electronic form. The  
9 Company's analysis was summarized, and the results are presented in the  
10 Introduction of Exhibit No. 5-A, Part II. The present rates for each division were  
11 applied to the consumption data and summarized in Schedule 4. The total  
12 revenues from Schedule 2 were brought forward to column 3 of Schedule 3.

13 Column 9 of Schedule 3 applies the 7.5% DSIC surcharge to the  
14 consumption analysis revenue to determine revenues under present rates in  
15 column 10. The revenues are further adjusted for pro forma revenue  
16 adjustments in columns 6 and 8 to develop the total revenues in column 10.

17 The development of pro forma revenues under proposed rates for each  
18 division is presented in Schedule 5. A comparison of customer bills is provided  
19 on Schedule 8 in response to Standard Data Request OR-3.

20 **WASTEWATER – COST OF SERVICE ALLOCATION**

21 **Q. Please describe your Exhibit No. 5-B, Part I.**

22 A. Exhibit No. 5-B, Part I presents wastewater cost of service studies for the  
23 following areas:

1 Wastewater Base Operations  
2 Limerick Division  
3 East Bradford Division  
4 Cheltenham Division  
5 East Norriton Division  
6 New Garden Division  
7

8 The Company is providing cost of service studies, other than the Base  
9 Operations, for the additional areas as a requirement of the PA PUC orders  
10 related to acquisitions of these areas.

11 **Q. Please describe the overall cost of service allocation methodology for the**  
12 **Company's Wastewater Divisions.**

13 A. The cost of service allocation studies for the Company's Wastewater Operations,  
14 includes the revenue requirements for each of the Company's wastewater  
15 operations previously described.

16 The purpose of the studies is to allocate the total cost of service for each  
17 division, which is the total revenue requirement, to the several customer  
18 classifications. In the studies, the total costs are allocated to the residential and  
19 non-residential customer classifications in accordance with generally accepted  
20 cost of service principles and procedures.

21 **Q. Have you prepared an exhibit presenting the results of your studies?**

22 A. Yes. The results of my allocations of the pro forma cost of service as of March  
23 31, 2023, and proposed customer rates to produce the pro forma revenue  
24 requirements for each division as of that date are presented in Exhibit No. 5-B,  
25 Part I.

26 **Q. Please describe the method of cost allocation that was used in your**  
27 **studies.**

1 A. I used the functional cost allocation methodology described in “Financing and  
2 Changes for Wastewater Systems”, Manual of Practice No. 27, published by the  
3 Water Environment Federation (“Manual of Practice No. 27”). This method  
4 allocated the cost of providing wastewater service to customer classifications in  
5 proportion to each classifications’ use of the service provider’s facilities and  
6 services. Costs are assigned to cost components using predominant operational  
7 purposes as cost-causative factors. The functional cost method is generally  
8 accepted as a sound method for allocating the cost of water service.

9 **Q. What procedures did you use to apply the cost allocation methodology for**  
10 **wastewater operations?**

11 A. Each element of the cost of service is allocated to customer classifications  
12 according to the functional categories of flow, infiltration and inflow (“I&I”),  
13 customer facilities and customer accounting. The functional costs are allocated  
14 to customer classifications based on the amount of flow contributed to the  
15 system, the amount of I&I allocated to each class, and the number and relative  
16 size of customers.

17 **Q. Have you summarized the results of your cost allocation study?**

18 A. Yes. The results are summarized in columns 1, 2, 3 and 4 of Schedule A for  
19 each study in Exhibit 5-B, Part I. Column 2 of each schedule sets forth the total  
20 allocated pro forma cost of service for each customer classification identified in  
21 column 1. Column 3 presents the total Act 11 revenues for each division  
22 proposed to be transferred to the water cost of service study, in Exhibit No. 5-A,  
23 Part I – Schedule A. Column 4 shows the revised total allocated pro forma cost

1 of service for each customer classification identified in column 1. Column 5  
2 presents each customer classification's cost responsibility as a percent of the  
3 total cost. The cost of service by class in column 2 was developed in Schedule B  
4 of each study. The factors that allocate the functional costs to customer classes  
5 are presented in Schedule C of each study. The factors that allocate the cost of  
6 service to the cost functions are shown in Schedule E of each study.

7 **Q. Have you compared these cost responsibilities with the proportionate**  
8 **revenue under existing rates for each customer classification?**

9 A. Yes. A comparison of the allocated cost responsibilities and the percentage  
10 revenue under existing rates can be made by comparing columns 5 and 7 of  
11 each Schedule WW-A in Exhibit 5-B, Part I. The revenues in column 8 are  
12 simply the revenues that would be required to move toward (or approximate) the  
13 cost of service in column 4, and the increase or decrease from present revenues  
14 is shown in column 10, with the percentage increase or decrease in column 11.

### 15 **WASTEWATER RATE DESIGN**

16 **Q. Is the proposed rate structure presented in an exhibit?**

17 A. Yes, on Schedule F-WW of Exhibit 5-B, Part I.

18 **Q. Did you develop rate design guidelines during discussions with Company**  
19 **management?**

20 A. Yes, I did. The guidelines were: (1) move toward additional consolidation of  
21 rates across rate zones; (2) for metered areas, develop a rate structure that  
22 includes a customer charge or EDU charge and a single block usage charge; and  
23 (3) for unmetered areas, develop a monthly flat rate to equal 4,000 gallons

1 priced-out at the respective zone rates, and (4) where possible, eliminate an  
2 allowance.

3 **Q. Does the proposed rate design comply with these guidelines?**

4 A. Yes. Of the various rate zones, the proposed rates consolidate Rate Zones 1,  
5 1B and 2 and the EDU charges for East Bradford (Rate Zone 8). Rate Zones 3,  
6 4, 5 and 6 remain standalone rate zones. In addition, except for East Bradford,  
7 the Company has several new acquisitions which will remain in separate rate  
8 zones. These include the Limerick, Cheltenham Township, East Norriton and  
9 New Garden Operations.

10 **Q. Did you study the feasibility of implementing a summer wastewater cap as**  
11 **required by the settlement agreement in Docket No. R-2018-3003558 and R-**  
12 **2018-3003561?**

13 A. Yes, we performed an analysis based on capping usage at winter water usage  
14 levels for the Wastewater Base Operations. This cap would have the affect of  
15 raising the rates for all wastewater customers significantly and benefiting high  
16 water users. Our analysis, attached as Exhibit 5-C, shows that, under the cap,  
17 billed usage would decline by 38% and the average monthly bill for a residential  
18 customer using 4,000 gallons per month would rise to \$85.73, a 10.6% increase  
19 over the projected bill under proposed filed rates of \$77.49. In addition, as the  
20 wastewater operations benefit from the shift under Act 11 from wastewater to the  
21 water operations, it is conceivable that as wastewater rates rise due to the  
22 implementation of the cap, more Act 11 shifting would be needed to mitigate this

1 increase. Therefore, the Company does not believe that it is appropriate to  
2 implement a summer wastewater cap for its wastewater customers.

3 **WASTEWATER - APPLICATION OF RATES TO CUSTOMERS'**  
4 **CONSUMPTION ANALYSIS**  
5

6 **Q. Please describe Exhibits 5-B, Part II.**

7 A. Exhibit 5-B, Part II, titled "Operating Revenue from Sales of Wastewater for the  
8 Twelve Months Ended March 31, 2023" presents the application of the present  
9 rates to the bill analysis for each rate division and the development of pro forma  
10 revenues under present rates as of March 31, 2023, and the development of pro  
11 forma revenues under proposed rates based on estimated conditions during the  
12 fully projected future test year ended March 31, 2023.

13 **Q. What was the purpose of the rate application?**

14 A. The purpose of the rate application was to establish the level of revenues to be  
15 derived from each customer classification under present and proposed rates  
16 based on consumption for the twelve months ended March 31, 2021 and March  
17 31, 2023.

18 **Q. Please outline the contents of Exhibit 5-B, Part II.**

19 A. Exhibit 5-B, Part II, includes the plan of the exhibit, an explanation of the rate  
20 application procedures, summaries of the rate applications and the application of  
21 present rates to the several consumption analyses.

22 For Wastewater Base Operations, a description of the schedules follows.

1 Schedule WW-1 presents the summary of pro forma revenues for the  
2 consolidated divisions under proposed rates for the twelve months ended March  
3 31, 2023.

4 Schedule WW-2 presents a summary of the application of present rates  
5 and the development of the pro forma revenues for the twelve months ended  
6 March 31, 2023 under proposed rates for each division.

7 Schedule WW-3 presents a summary of the pro forma revenues for the  
8 consolidated divisions under present rates, for the twelve months ending March  
9 31, 2023.

10 Schedule WW-4 presents a summary of the application of revenues under  
11 present rates for the twelve months ending March 31, 2023 for each division  
12 within Wastewater Base Operations.

13 Schedule WW-5 presents the application of present rates to the  
14 consumption analysis for each of the divisions. Schedule WW-6 presents  
15 adjustments to the application of present and proposed rates and includes  
16 certain growth adjustments.

17 **Q. Please explain the calculations associated with the application of the rates**  
18 **to consumption.**

19 A. An analysis of customer consumption for the twelve months ended March 31,  
20 2021, was prepared by the Company and was provided in electronic form. The  
21 Company's analysis was summarized, and the results are presented in the  
22 Introduction of Exhibit 5-B, Part II. For Wastewater Base Operations, the present  
23 rates for each division in the Wastewater Base Operations were applied to the

1 consumption data and summarized in Schedule WW-4. The total revenues from  
2 Schedule WW-4 were brought forward to column 3 of Schedule 2.

3 Column 9 applies the 5.0% DSIC surcharge to the consumption analysis  
4 revenue to determine revenues under present rates in column 10. The revenues  
5 are further adjusted for pro forma revenue adjustments in columns 6 and 8 to  
6 develop the total revenues in column 10.

7 The development of pro forma revenues under proposed rates for each  
8 division in the Wastewater Base Operations is presented in Schedule WW-5. A  
9 comparison of the present and proposed rates for each division in the  
10 Wastewater Operations Division, as well as comparisons of customer bills, is  
11 provided on Schedule WW-8.

12 **Q. Please describe the schedules in Exhibit 5-B, Part II for the Limerick**  
13 **Division.**

14 A. Schedule LMK-1 presents the summary of pro forma revenues for the Limerick  
15 Division under proposed rates for the twelve months ended March 31, 2023.

16 Schedule LMK-2 presents a summary of the application of present rates  
17 and the development of the pro forma revenues for the twelve months ended  
18 March 31, 2021 under proposed rates for each division.

19 Schedule LMK-3 presents the application of present and proposed rates to  
20 the consumption analysis.

21 **Q. Please describe the schedules in Exhibit 5-B, Part II for the East Bradford**  
22 **Division.**

1 A. Schedule EB-1 presents the summary of pro forma revenues for the East  
2 Bradford Division under proposed rates for the twelve months ended March 31,  
3 2023.

4 Schedule EB-2 presents a summary of the application of present rates  
5 and the development of the pro forma revenues for the twelve months ended  
6 March 31, 2021 under proposed rates for each division.

7 Schedule EB-3 presents the application of present and proposed rates to  
8 the consumption analysis.

9 **Q. Please describe the schedules in Exhibit 5-B, Part II for the Cheltenham**  
10 **Division.**

11 A. Schedule CH-1 presents the summary of pro forma revenues for the Cheltenham  
12 Division under proposed rates for the twelve months ended March 31, 2023.

13 Schedule CH-2 presents a summary of the application of present rates  
14 and the development of the pro forma revenues for the twelve months ended  
15 March 31, 2021 under proposed rates for each division.

16 Schedule CH-3 presents the application of present and proposed rates to  
17 the consumption analysis.

18 **Q. Please describe the schedules in Exhibit 5-B, Part II for the East**  
19 **Norriton/Whitpain Division.**

20 A. Schedule EN-1 presents the summary of pro forma revenues for the consolidated  
21 divisions under proposed rates for the twelve months ended March 31, 2023.

1 Schedule EN-2 presents a summary of the application of present rates  
2 and the development of the pro forma revenues for the twelve months ended  
3 March 31, 2021 under proposed rates for each division.

4 Schedule EN-3 presents a summary of the pro forma revenues for the  
5 consolidated divisions under present rates, for the twelve months ending March  
6 31, 2023.

7 Schedule EN-4 presents a summary of the application of revenues under  
8 present rates for the twelve months ending March 31, 2023.

9 Schedule EN-5 presents the application of present rates to the  
10 consumption analysis for both East Norriton and Whitpain. Schedule EN-6  
11 presents adjustments to the application of present and proposed rates.

12 **Q. Please describe the schedules in Exhibit 5-B, Part II for the New Garden**  
13 **Division.**

14 A. Schedule NG-1 presents the summary of pro forma revenues for the New  
15 Garden Division under proposed rates for the twelve months ended March 31,  
16 2023.

17 Schedule NG-2 presents a summary of the application of present rates  
18 and the development of the pro forma revenues for the twelve months ended  
19 March 31, 2021 under proposed rates for each division.

20 Schedule NG-3 presents the application of present and proposed rates to  
21 the consumption analysis.

22 **Q. Does this conclude your direct testimony?**

23 A. Yes, it does.

CONSTANCE E. HEPPENSTALL – LIST OF CASES TESTIFIED

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client/Utility</u>	<u>Subject</u>
1.	2010	AZ CC	W-01303A-09-0343 and SW-01303A-09-0343	Arizona American Water Company	Rate Consolidation
2.	2010	Pa PUC	R-2010-2179103	City of Lancaster – Bureau of Water Hanover Borough	Revenue Requirements
3.	2012	Pa PUC	R-2012-2311725		Cost of Service/Revenue Requirements
4.	2012	Pa PUC	R-2012-2310366	City of Lancaster – Sewer Fund	Revenue Requirements
5.	2013	Pa PUC	R-2013-2350509	City of DuBois – Bureau of Water	Revenue Requirements
6.	2013	Pa PUC	R-2013-2390244	City of Bethlehem – Bureau of Water	Revenue Requirements
7.	2014	Pa PUC	R-2014-2418872	City of Lancaster – Bureau of Water	Revenue Requirements
8.	2014	Pa PUC	R-2014-2428304	Hanover Borough	Revenue and Revenue Requirements
9.	2015	KY PSC	Case No.2015-000143	Northern Kentucky Water District	Cost of Service
10.	2016	Pa PUC	R-2016-2554150	City of DuBois – Bureau of Water	Cost of Service/Revenue Requirements
11.	2016	AZ CC	WS-01303A-16-0145	EPCOR Water Arizona, Inc.	Cost of Service/Rate Design
12.	2017	MO PSC	WR-2017-0285	Missouri-American Water Company	Cost of Service/Rate Design
13.	2017	MO PSC	SR-2017-0286	Missouri-American Water Company	Cost of Service/Rate Design
14.	2017	VA SCC	PUR-2017-00082	Aqua Virginia, Inc	Cost of Service
15.	2017	AZ CC	WS-01303A-17-0257	EPCOR Water Arizona, Inc	Cost of Service/Rate Design
16.	2017	HI PUC	2017-0446	Hana Water Systems, LLC – North	Cost of Service/Rate Design
17.	2017	HI PUC	2017-0447	Hana Water Systems, LLC – South	Cost of Service/Rate Design
18.	2018	PA PUC	2018-200208	SUEZ Water Pennsylvania	Revenue Requirements
19.	2018	KY PSC	2018-00208	Water Service Corp of KY	Cost of Service/Rate Design
20.	2018	WV PSC	18-0573-W-42t	West Virginia American Water Co.	Cost of Service
21.	2018	IN IRC	50208	Indiana American Water Company	Cost of Service/Demand Study
22.	2018	KY PSC	2018-00291	Northern Kentucky Water District	Cost of Service/Rate Design
23.	2018	KY PSC	2018-0358	Kentucky American Water	Cost of Service/Rate Design
24.	2019	PA PUC	2019-3006904	Newtown Artesian Water Co.	Revenue Reqmts./Rate Design
25.	2019	PA PUC	2019-3010955	City of Lancaster – Sewer Fund	Rev. Reqmts./Cost of Service/Rates
26.	2020	PA PUC	2020-3017206	Philadelphia Gas Works	Cost of Service
27.	2020	PA PUC	2020-3019369	Pennsylvania American Water Co.	Cost of Service/Rate Design
28.	2020	PA PUC	2020-3019371	Pennsylvania American Water Co.	Cost of Service/Rate Design
29.	2020	PA PUC	2020-3020256	City of Bethlehem	Rev. Reqmts./Cost of Service/Rates
30.	2020	CA PUC	A2101003	San Jose Water Company	Rate Design
31.	2020	VA SCC	PUR-2020-00106	Aqua Virginia, Inc.	Cost of Service
32.	2021	OH PUC	21-0595-WW-AIR	Aqua Ohio, Inc	Cost of Service
33.	2021	OH PUC	21-0596-ST-AIR	Aqua Ohio, Inc	Cost of Service
34.	2021	PA PUC	R-2021-3026116	Hanover Borough	Cost of Service
35.	2021	NJ BPU	WR21071007	Atlantic City Sewerage Co.	Rev. Reqmts./Cost of Service/Rates

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**DOCKET NOS. R-2021-3027385, R-2021-3027386**

**AQUA PENNSYLVANIA, INC.  
AQUA PENNSYLVANIA WASTEWATER, INC.**

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**PREPARED DIRECT TESTIMONY OF  
JOHN J. SPANOS**

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**Topics Addressed:**

**Depreciation**

DATE SERVED: August 20, 2021  
DATE ADMITTED: \_\_\_\_\_

**Aqua Statement No. 6**

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

RE: AQUA PENNSYLVANIA, INC.

DIRECT TESTIMONY OF JOHN J. SPANOS

1 **Q. Please state your name and address.**

2 A. My name is John J. Spanos. My business address is 207 Senate Avenue, Camp  
3 Hill, Pennsylvania 17011.

4 **Q. With what firm are you associated?**

5 A. I am associated with the firm of Gannett Fleming Valuation and Rate Consultants,  
6 LLC ("Gannett Fleming").

7 **Q. How long have you been associated with Gannett Fleming?**

8 A. I have been associated with the firm since June 1986.

9 **Q. What is your position in the firm?**

10 A. I am President.

11 **Q. What is your educational background?**

12 A. I have Bachelor of Science degrees in Industrial Management and Mathematics  
13 from Carnegie-Mellon University and a Master of Business Administration from  
14 York College of Pennsylvania.

15 **Q. Are you a member of any professional societies?**

16 A. Yes. I am a member and past President of the Society of Depreciation  
17 Professionals. I am also a member of the American Gas Association/Edison  
18 Electric Institute Industry Accounting Committee.

19 **Q. Do you hold any special certification as a depreciation expert?**

1 A. Yes. The Society of Depreciation Professionals has established national  
2 standards for depreciation professionals. The Society administers an  
3 examination to become certified in this field. I passed the certification exam in  
4 September 1997 and was recertified in August 2003, February 2008, January  
5 2013 and February 2018.

6 **Q. What is the extent of your formal instruction with respect to utility plant  
7 depreciation?**

8 A. I have completed the “Techniques of Life Analysis”, “Techniques of Salvage and  
9 Depreciation Analysis”, “Forecasting Life and Salvage”, “Modeling and Life  
10 Analysis Using Simulation” and “Managing a Depreciation Study” programs  
11 conducted by Depreciation Programs, Inc. Also, I have completed the  
12 “Introduction to Public Utility Accounting” program conducted by the American  
13 Gas Association.

14 **Q. Please outline your experience in the field of depreciation.**

15 A. I have over 35 years of depreciation experience which includes giving expert  
16 testimony in over 370 cases before 41 regulatory commissions, including the  
17 Pennsylvania Public Utility Commission (“Commission”). These cases have  
18 included depreciation studies in the electric, gas, water, wastewater and pipeline  
19 industries. In addition to cases where I have submitted testimony, I have also  
20 supervised over 700 other depreciation or valuation assignments. Please refer  
21 to Appendix A for my qualifications statement, which includes further information  
22 with respect to my work history, case experience, and leadership in the Society  
23 of Depreciation Professionals.

1 **Q. What is the purpose of your testimony?**

2 A. I was asked by Aqua Pennsylvania, Inc. and Aqua Pennsylvania Wastewater,  
3 Inc. (collectively "Aqua PA" or the "Company") to prepare depreciation studies  
4 with regards to plant in service as of March 31, 2021 and, as claimed by the  
5 Company, as of March 31, 2022 and March 31, 2023 for water and the  
6 wastewater assets by system.

7 **Q. Have you prepared exhibits presenting the results of your studies?**

8 A. Yes. Exhibit Nos. 6-A, Part I through 6-G, Part I present the results of each  
9 depreciation study as of the historic test year ended March 31, 2021 ("HTY").  
10 Exhibit Nos. 6-A, Part II through 6-G, Part II present the results of each  
11 depreciation study as of the future test year ending March 31, 2022 ("FTY").  
12 Exhibit Nos. 6-A, Part III through 6-G, Part III present the results of each  
13 depreciation study as of the fully projected future test year ending March 31,  
14 2023 ("FPFTY"). In addition, I am responsible for the responses to Depreciation  
15 Data Filing Requirements FR VI.1, FR VI.2, FR VI.3, FR VI.4, FR VI.5 and FR  
16 VI.6.

17 **Q. Please describe Exhibit Nos. 6-A through 6-G.**

18 A. Exhibit No. 6-A, Part I titled "2021 Depreciation Study - Calculated Annual  
19 Depreciation Accruals Related to Water Plant as of March 31, 2021," includes  
20 the results of the depreciation study related to the water assets as of March 31,  
21 2021. The report also includes the detailed depreciation calculations. Exhibit  
22 No. 6-A, Part II, titled "2022 Depreciation Study - Calculated Annual Depreciation  
23 Accruals Related to Water Plant as of March 31, 2022" includes the results of the

1 depreciation study related to the estimated water assets as of March 31, 2022.  
2 The report also includes explanatory text, statistics related to the estimation of  
3 service life, and the detailed depreciation calculations. Exhibit No. 6-A, Part III  
4 titled "2023 Depreciation Study – Calculated Annual Depreciation Accruals  
5 Related to Water Plant as of March 31, 2023", includes the results of the  
6 depreciation study related to the estimated water assets as of March 31, 2023.  
7 The Exhibit Nos. 6-B, Part I through 6-G, Part III are organized in the same  
8 fashion for the wastewater assets by system. The Exhibit Nos. 6-B represent All  
9 Other Wastewater systems; 6-C represents the Limerick Operations; 6-D  
10 represents the East Bradford Operations; 6-E represents the Cheltenham  
11 Operations; 6-F represents the East Norriton Operations; and 6-G represent the  
12 New Garden Operations.

13 **Q. What was the purpose of your depreciation studies?**

14 A. The purpose of the depreciation studies was to estimate the annual depreciation  
15 accruals related to water and wastewater plant in service for ratemaking  
16 purposes and, using Commission-approved procedures, to estimate Aqua PA's  
17 book reserve as of March 31, 2022 and March 31, 2023.

18 **Q. Is Aqua PA's claim for annual depreciation in the current proceeding based**  
19 **on the same method of depreciation as was used in its most recent water**  
20 **and wastewater rate proceeding in Docket Nos. R-2018-3003558 and R-**  
21 **2018-3003561, respectively?**

22 A. Yes, it is. For most plant accounts, the current claim for annual depreciation is  
23 based on the straight line remaining life method of depreciation which has been

1 used for over thirty years. For Accounts 340, 341.2, 342, 343, 346, 347 and 348  
2 for water assets and Accounts 390, 392, 393, 394, 396 and 397 for wastewater  
3 assets, the claim is based on the straight line remaining life method of  
4 amortization. The annual amortization is based on amortization accounting,  
5 which distributes the unrecovered cost of fixed capital assets over the remaining  
6 amortization period selected for each account.

7 **Q. What group procedure is being used in this proceeding for depreciable**  
8 **accounts?**

9 A. The same group procedures as in the last approved rate proceeding are used for  
10 each study. The equal life group procedure is used in the current proceeding for  
11 all depreciable accounts and installation years of water and wastewater plant.

12 **Q. Is Aqua PA's claim for accrued depreciation in the current proceeding**  
13 **made on the same basis as has been used for over thirty years?**

14 A. Yes. The current claim for accrued depreciation for water assets is the book  
15 reserve brought forward from the book reserve approved by the Commission at  
16 Docket No. R-850174. Similarly, for wastewater assets, accrued depreciation is  
17 brought forward from the previously approved level at the time of acquisition.

18 **Q. How was the book reserve used in the calculation of annual depreciation?**

19 A. The book reserve by account was allocated to vintages to determine original cost  
20 less accrued depreciation by vintage. The total annual accrual is the sum of the  
21 results of dividing the original costs less accrued depreciation by the vintage  
22 composite remaining lives.

23 **Q. How was the book reserve as of March 31, 2022 and March 31, 2023**  
24 **estimated?**

1 A. The book reserve as of March 31, 2022 and March 31, 2023, by account, was  
2 projected by adding estimated accruals, salvage and the amortization of net  
3 salvage, and subtracting estimated retirements and cost of removal from the  
4 book reserve as of March 31, 2021. Annual accruals were calculated based on  
5 an average yearly or monthly plant balance. For most accounts, salvage and  
6 cost of removal were estimated by (1) expressing actual salvage and cost of  
7 removal as a percent of retirements by account, for the most recent five-year  
8 period, and (2) applying those percents to the projected retirements by account.  
9 The projected book reserve by account was allocated to vintages for the purpose  
10 of the annual accrual calculation based on calculated accrued depreciation as of  
11 March 31, 2022 and March 31, 2023.

12 **Q. Have service life studies of Aqua PA's water and wastewater utility property**  
13 **been performed?**

14 A. Yes. Service life studies were performed during 2020 for the water assets and  
15 during 2018 for the wastewater assets. The service life studies were the basis  
16 for the service lives I used to calculate annual accruals.

17 **Q. Briefly outline the procedure used in performing the service life studies.**

18 A. The service life studies consisted of assembling and compiling historical data  
19 from the records related to the water and wastewater plant of Aqua PA and its  
20 predecessors; statistically analyzing such data to obtain historical trends of  
21 survivor characteristics; obtaining supplementary information from management  
22 and operating personnel concerning Company practices and plans as they relate  
23 to plant operations; and interpreting the above data to form judgments of service  
24 life characteristics. Iowa type survivor curves were used to describe the

1 estimated survivor characteristics of the mass property groups. Individual  
2 service lives were used for major individual units of plant, such as reservoirs and  
3 buildings housing treatment plants, pump stations, offices and shops. The life  
4 span concept was recognized by coordinating the lives of associated plant  
5 installed in subsequent years with the probable retirement date defined by the  
6 life estimated for the major unit.

7 **Q. What statistical data were employed in the historical analyses performed**  
8 **for the purpose of estimating service life characteristics?**

9 A. The data consisted of the entries made to record retirements and other  
10 transactions related to the water plant during the period 1954-2019 and the  
11 wastewater plant during the period 2010-2017. These entries were classified by  
12 depreciable group, type of transaction, the year in which the transaction took  
13 place, and the year in which the plant was installed. Types of transactions  
14 included in the data were plant additions, retirements, transfers, and balances.

15 **Q. What was the source of these data?**

16 A. They were assembled from Company records related to its utility plant in service.

17 **Q. Were the methods used in the service life studies the same as those used**  
18 **in other depreciation studies for water and wastewater plant presented**  
19 **before this Commission?**

20 A. Yes. The methods are the same ones that have been presented previously for  
21 Aqua PA and for other water and wastewater companies before the Commission  
22 and that have been accepted by the Commission in its past orders concerning  
23 water and wastewater utilities.

1 **Q. Are the factors considered in your estimates of service life presented in**  
2 **Exhibit Nos. 6-A, Part II through 6-G, Part II?**

3 A. Yes. A discussion of the factors considered in the estimation of service lives is  
4 presented in Part III, Service Life Considerations, of 6-A, Part II and in Part III,  
5 Service Life Considerations, of Exhibit Nos. 6-B through 6-G, Part II.

6 **Q. Please outline the contents of Exhibit Nos. 6-A, Part II through 6-G, Part II.**

7 A. Exhibit No. 6-A, Part II is presented in eight parts. Part I, Introduction, contains  
8 statements with respect to the plan of the report, and the basis of the study. Part  
9 II, Estimation of Survivor Curves, presents descriptions of the considerations and  
10 the methods used in the service life studies. Part III, Service Life Considerations,  
11 presents the factors and judgment utilized in the average service life analysis.  
12 Part IV, Calculation of Annual and Accrued Depreciation, describes the  
13 procedures used in the calculation of group depreciation. Part V, Results of  
14 Study, presents a summary by depreciable group of annual depreciation accrual  
15 rates and amounts. Part VI, Service Life Statistics, presents the statistical  
16 analysis of service life estimates. Part VII, Detailed Depreciation Calculations,  
17 presents the detailed tabulations of annual depreciation. Part VIII, Experienced  
18 and Estimated Net Salvage, presents the cost of removal and gross salvage  
19 recorded for the period 2017-2021.

20 Table 1, pages V-5 through V-8, presents the estimated survivor curve, the  
21 original cost as of March 31, 2022, and the book reserve and calculated annual  
22 depreciation for each account or subaccount of Water Plant. Table 2, pages V-  
23 9 and V-10, presents the bringforward to March 31, 2022, of the book

1 depreciation reserve as of March 31, 2021. Table 3 on page V-11 sets forth the  
2 calculation of the annual accruals used in the bringforward. Table 4, page V-12,  
3 presents the experienced and estimated net salvage during the five-year period,  
4 2017 through 2021.

5 The section beginning on page VI-2 presents the results of the retirement  
6 rate analyses prepared as the historical bases for the service life estimates. The  
7 section beginning on page VII-2 presents the depreciation calculations related to  
8 original cost. The tabulation on pages VII-3 through VII-5 presents the  
9 cumulative depreciated original cost by year installed. The tabulations on pages  
10 VII-7 through VII-166 present the calculation of annual depreciation by vintage  
11 by account for each depreciable group of water plant. The tabulation on pages  
12 VIII-2 through VIII-4 presents the retirements, salvage, and cost of removal by  
13 account for each year during the period 2017 through 2021. Exhibit Nos. 6-B  
14 through 6-G, Part II are presented in the same fashion for wastewater plant.

15 **Q. Please outline the contents in Exhibit Nos. 6-A, Part III through 6-G, Part III.**

16 A. Exhibit No. 6-A, Part III includes a description of the results, summaries of the  
17 depreciation calculations, and the detailed depreciation calculations as of March  
18 31, 2023. The descriptions and explanations presented in Exhibit No. 6-A, Part  
19 II are also applicable to the depreciation calculations presented in Exhibit No. 6-  
20 A, Part III. The graphs and tables related to service lives presented in Exhibit  
21 No. 6-A, Part II also support the service life estimates used in Exhibit No. 6-A,  
22 Part III inasmuch as the estimates are the same for both test years. The  
23 summary tables and detailed depreciation calculations as of March 31, 2023, are

1 organized and presented in the same manner as those as of March 31, 2022.  
2 Exhibit Nos. 6-B through 6-G, Part III are presented in the same fashion for  
3 wastewater plant.

4 **Q. Please outline the contents of Exhibit Nos. 6-A, Part I through 6-G, Part I.**

5 A. Exhibit No. 6-A, Part I includes a description of the results, summaries of the  
6 depreciation calculations, and the detailed depreciation calculations as of March  
7 31, 2021. The descriptions and explanations presented in Exhibit No. 6-A, Part  
8 II are also applicable to the depreciation calculations presented in Exhibit No. 6-  
9 A, Part I. The graphs and tables related to service lives presented in Exhibit No.  
10 6-A, Part II also support the service life estimates used in Exhibit No. 6-A, Part I,  
11 inasmuch as the estimates are the same for both test years. The summary tables  
12 and detailed depreciation calculations as of March 31, 2021, are organized and  
13 presented in the same manner as those as of March 31, 2022. Exhibit Nos. 6-B  
14 through 6-G, Part I are presented in the same fashion for wastewater plant.

15 **Q. Please use an example to illustrate the manner in which the study is**  
16 **presented in Exhibit Nos. 6-A, Part I through 6-G, Part III.**

17 A. I will use Account 331.03, Mains and Accessories – 12 Inch and Over, as my  
18 example, inasmuch as it is one of the largest depreciable group of water assets  
19 and represents approximately 12 percent of the original cost of depreciable water  
20 utility plant as of March 31, 2022 the FTY.

21 The retirement rate method was used to analyze the survivor characteristics  
22 of this group. The life tables for the 1954-2019 1985-2019 and 2000-2019  
23 experience bands are presented on pages VI-123 through VI-134 of Exhibit No.

1 6-A, Part II. The life tables, or original survivor curves, are plotted along with the  
2 estimated smooth survivor curve, the 95-S3, on page VI-122.

3 The calculation of the annual depreciation related to the original cost of  
4 water plant as of March 31, 2021 is presented on pages II-96 through II-99 of  
5 Exhibit No. 6-A, Part I. The calculation is based on the 95-S3 survivor curve, the  
6 attained age, and the allocated book reserve. The calculation as of March 31,  
7 2022 is presented on pages VII-98 through VII-101 of Exhibit No.6-A, Part II and  
8 is based in part on the bringforward of the book reserve. The calculation as of  
9 March 31, 2023 is presented on pages II-98 through II-101 of Exhibit No. 6-A,  
10 Part III and is based in part on the bringforward of the book reserve. The  
11 tabulations in Exhibits 6-A, Part I through III set forth the installation year, the  
12 original cost, calculated accrued depreciation, allocated book reserve, future  
13 accruals, remaining life and annual accrual. The totals are brought forward to  
14 Table 1 on page I-4 in Exhibit No. 6-A, Part I on page V-6 in Exhibit No. 6-A, Part  
15 II, and page I-4 in Exhibit No. 6-A, Part III. The same process is conducted for  
16 each wastewater system.

17 **Q. In what manner is net salvage incorporated in the depreciation**  
18 **calculations?**

19 A. As stated on page IV-7 of Exhibit No. 6-A, Part II, no adjustment for net salvage  
20 was made to the calculated annual depreciation amounts. The total calculated  
21 annual depreciation set forth on page I-6 of Exhibit No. 6-A, Part I, on page V-8  
22 of Exhibit No. 6-A, Part II and on page I-6 of Exhibit No. 6-A, Part III reflects an  
23 addition for the amortization of negative net salvage in accordance with the

1 practice of this Commission. The amortization is based on experience during the  
2 period 2016 through 2020 for the calculation as of March 31, 2021, on experience  
3 during the period 2017 through December 31, 2020, plus estimates for the year  
4 2021 for the calculation as of March 31, 2022, and on experience during the  
5 period 2018 through December 31, 2020, plus estimates for the years 2021 and  
6 2022 for the calculation as of March 31, 2023. The detail by plant account of  
7 regular retirements, salvage, and cost of removal for each year is presented on  
8 pages III-2 through III-4 of Exhibit No. 6-A, Part I and on pages VIII-2 through  
9 VIII-4 of Exhibit No. 6-A, Part II and on pages III-2 through III-4 of Exhibit No. 6-  
10 A, Part III. The totals are brought forward to Table 2 on page I-7 of Exhibit No.  
11 6-A, Part I, to Table 4 on page V-12 of Exhibit No. 6-A, Part II and to Table 4 on  
12 page I-10 of Exhibit No. 6-A, Part III in which the amounts of the five-year  
13 amortizations are calculated. The same calculations are presented in the  
14 wastewater studies.

15 **Q. Does this complete your testimony at this time?**

16 **A.** Yes, it does.

## Appendix A

## **JOHN SPANOS**

### **DEPRECIATION EXPERIENCE**

**Q. Please state your name.**

A. My name is John J. Spanos.

**Q. What is your educational background?**

A. I have Bachelor of Science degrees in Industrial Management and Mathematics from Carnegie-Mellon University and a Master of Business Administration from York College.

**Q. Do you belong to any professional societies?**

A. Yes. I am a member and past President of the Society of Depreciation Professionals and a member of the American Gas Association/Edison Electric Institute Industry Accounting Committee.

**Q. Do you hold any special certification as a depreciation expert?**

A. Yes. The Society of Depreciation Professionals has established national standards for depreciation professionals. The Society administers an examination to become certified in this field. I passed the certification exam in September 1997 and was recertified in August 2003, February 2008, January 2013 and February 2018.

**Q. Please outline your experience in the field of depreciation.**

A. In June 1986, I was employed by Gannett Fleming Valuation and Rate Consultants, Inc. as a Depreciation Analyst. During the period from June 1986 through December 1995, I helped prepare numerous depreciation and original cost studies for utility companies in various industries. I helped perform depreciation studies for the following telephone companies: United Telephone of Pennsylvania, United Telephone of New Jersey, and Anchorage Telephone Utility. I helped perform depreciation studies for the following

companies in the railroad industry: Union Pacific Railroad, Burlington Northern Railroad, and Wisconsin Central Transportation Corporation.

I helped perform depreciation studies for the following organizations in the electric utility industry: Chugach Electric Association, The Cincinnati Gas and Electric Company (CG&E), The Union Light, Heat and Power Company (ULH&P), Northwest Territories Power Corporation, and the City of Calgary - Electric System.

I helped perform depreciation studies for the following pipeline companies: TransCanada Pipelines Limited, Trans Mountain Pipe Line Company Ltd., Interprovincial Pipe Line Inc., Nova Gas Transmission Limited and Lakehead Pipeline Company.

I helped perform depreciation studies for the following gas utility companies: Columbia Gas of Pennsylvania, Columbia Gas of Maryland, The Peoples Natural Gas Company, T. W. Phillips Gas & Oil Company, CG&E, ULH&P, Lawrenceburg Gas Company and Penn Fuel Gas, Inc.

I helped perform depreciation studies for the following water utility companies: Indiana-American Water Company, Consumers Pennsylvania Water Company and The York Water Company; and depreciation and original cost studies for Philadelphia Suburban Water Company and Pennsylvania-American Water Company.

In each of the above studies, I assembled and analyzed historical and simulated data, performed field reviews, developed preliminary estimates of service life and net salvage, calculated annual depreciation, and prepared reports for submission to state public utility commissions or federal regulatory agencies. I performed these studies under the general direction of William M. Stout, P.E.

In January 1996, I was assigned to the position of Supervisor of Depreciation Studies. In July 1999, I was promoted to the position of Manager, Depreciation and

Valuation Studies. In December 2000, I was promoted to the position as Vice-President of Gannett Fleming Valuation and Rate Consultants, Inc., in April 2012, I was promoted to the position as Senior Vice President of the Valuation and Rate Division of Gannett Fleming Inc. (now doing business as Gannett Fleming Valuation and Rate Consultants, LLC) and in January of 2019, I was promoted to my present position of President of Gannett Fleming Valuation and Rate Consultants, LLC. In my current position I am responsible for conducting all depreciation, valuation and original cost studies, including the preparation of final exhibits and responses to data requests for submission to the appropriate regulatory bodies.

Since January 1996, I have conducted depreciation studies similar to those previously listed including assignments for Pennsylvania-American Water Company; Aqua Pennsylvania; Kentucky-American Water Company; Virginia-American Water Company; Indiana-American Water Company; Iowa-American Water Company; New Jersey-American Water Company; Hampton Water Works Company; Omaha Public Power District; Enbridge Pipe Line Company; Inc.; Columbia Gas of Virginia, Inc.; Virginia Natural Gas Company National Fuel Gas Distribution Corporation - New York and Pennsylvania Divisions; The City of Bethlehem - Bureau of Water; The City of Coatesville Authority; The City of Lancaster - Bureau of Water; Peoples Energy Corporation; The York Water Company; Public Service Company of Colorado; Enbridge Pipelines; Enbridge Gas Distribution, Inc.; Reliant Energy-HLP; Massachusetts-American Water Company; St. Louis County Water Company; Missouri-American Water Company; Chugach Electric Association; Alliant Energy; Oklahoma Gas & Electric Company; Nevada Power Company; Dominion Virginia Power; NUI-Virginia Gas Companies; Pacific Gas & Electric Company; PSI Energy; NUI - Elizabethtown Gas Company; Cinergy Corporation – CG&E; Cinergy Corporation – ULH&P; Columbia Gas of Kentucky; South Carolina Electric & Gas Company; Idaho Power Company; El Paso

Electric Company; Aqua North Carolina; Aqua Ohio; Aqua Texas, Inc.; Aqua Illinois, Inc.; Ameren Missouri; Central Hudson Gas & Electric; Centennial Pipeline Company; CenterPoint Energy-Arkansas; CenterPoint Energy – Oklahoma; CenterPoint Energy – Entex; CenterPoint Energy - Louisiana; NSTAR – Boston Edison Company; Westar Energy, Inc.; United Water Pennsylvania; PPL Electric Utilities; PPL Gas Utilities; Wisconsin Power & Light Company; TransAlaska Pipeline; Avista Corporation; Northwest Natural Gas; Allegheny Energy Supply, Inc.; Public Service Company of North Carolina; South Jersey Gas Company; Duquesne Light Company; MidAmerican Energy Company; Laclede Gas; Duke Energy Company; E.ON U.S. Services Inc.; Elkton Gas Services; Anchorage Water and Wastewater Utility; Kansas City Power and Light; Duke Energy North Carolina; Duke Energy South Carolina; Monongahela Power Company; Potomac Edison Company; Duke Energy Ohio Gas; Duke Energy Kentucky; Duke Energy Indiana; Duke Energy Progress; Northern Indiana Public Service Company; Tennessee-American Water Company; Columbia Gas of Maryland; Maryland-American Water Company; Bonneville Power Administration; NSTAR Electric and Gas Company; EPCOR Distribution, Inc.; B. C. Gas Utility, Ltd; Entergy Arkansas; Entergy Texas; Entergy Mississippi; Entergy Louisiana; Entergy Gulf States Louisiana; the Borough of Hanover; Louisville Gas and Electric Company; Kentucky Utilities Company; Madison Gas and Electric; Central Maine Power; PEPCO; PacifiCorp; Minnesota Energy Resource Group; Jersey Central Power & Light Company; Cheyenne Light, Fuel and Power Company; United Water Arkansas; Central Vermont Public Service Corporation; Green Mountain Power; Portland General Electric Company; Atlantic City Electric; Nicor Gas Company; Black Hills Power; Black Hills Colorado Gas; Black Hills Kansas Gas; Black Hills Service Company; Black Hills Utility Holdings; Public Service Company of Oklahoma; City of

Dubois; Peoples Gas Light and Coke Company; North Shore Gas Company; Connecticut Light and Power; New York State Electric and Gas Corporation; Rochester Gas and Electric Corporation; Greater Missouri Operations; Tennessee Valley Authority; Omaha Public Power District; Indianapolis Power & Light Company; Vermont Gas Systems, Inc.; Metropolitan Edison; Pennsylvania Electric; West Penn Power; Pennsylvania Power; PHI Service Company - Delmarva Power and Light; Atmos Energy Corporation; Citizens Energy Group; PSE&G Company; Berkshire Gas Company; Alabama Gas Corporation; Mid-Atlantic Interstate Transmission, LLC; SUEZ Water; WEC Energy Group; Rocky Mountain Natural Gas, LLC; Illinois-American Water Company; Northern Illinois Gas Company; Public Service of New Hampshire and Newtown Artesian Water Company.

My additional duties include determining final life and salvage estimates, conducting field reviews, presenting recommended depreciation rates to management for its consideration and supporting such rates before regulatory bodies.

**Q. Have you submitted testimony to any state utility commission on the subject of utility plant depreciation?**

A. Yes. I have submitted testimony to the Pennsylvania Public Utility Commission; the Commonwealth of Kentucky Public Service Commission; the Public Utilities Commission of Ohio; the Nevada Public Utility Commission; the Public Utilities Board of New Jersey; the Missouri Public Service Commission; the Massachusetts Department of Telecommunications and Energy; the Alberta Energy & Utility Board; the Idaho Public Utility Commission; the Louisiana Public Service Commission; the State Corporation Commission of Kansas; the Oklahoma Corporate Commission; the Public Service Commission of South Carolina; Railroad Commission of Texas – Gas Services Division; the New York Public Service Commission; Illinois Commerce Commission; the Indiana

Utility Regulatory Commission; the California Public Utilities Commission; the Federal Energy Regulatory Commission (“FERC”); the Arkansas Public Service Commission; the Public Utility Commission of Texas; Maryland Public Service Commission; Washington Utilities and Transportation Commission; The Tennessee Regulatory Commission; the Regulatory Commission of Alaska; Minnesota Public Utility Commission; Utah Public Service Commission; District of Columbia Public Service Commission; the Mississippi Public Service Commission; Delaware Public Service Commission; Virginia State Corporation Commission; Colorado Public Utility Commission; Oregon Public Utility Commission; South Dakota Public Utilities Commission; Wisconsin Public Service Commission; Wyoming Public Service Commission; the Public Service Commission of West Virginia; Maine Public Utility Commission; Iowa Utility Board; Connecticut Public Utilities Regulatory Authority; New Mexico Public Regulation Commission; Commonwealth of Massachusetts Department of Public Utilities; Rhode Island Public Utilities Commission and the North Carolina Utilities Commission.

**Q. Have you had any additional education relating to utility plant depreciation?**

A. Yes. I have completed the following courses conducted by Depreciation Programs, Inc.: “Techniques of Life Analysis,” “Techniques of Salvage and Depreciation Analysis,” “Forecasting Life and Salvage,” “Modeling and Life Analysis Using Simulation,” and “Managing a Depreciation Study.” I have also completed the “Introduction to Public Utility Accounting” program conducted by the American Gas Association.

**Q. Does this conclude your qualification statement?**

A. Yes.

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
01.	1998	PA PUC	R-00984375	City of Bethlehem – Bureau of Water	Original Cost and Depreciation
02.	1998	PA PUC	R-00984567	City of Lancaster	Original Cost and Depreciation
03.	1999	PA PUC	R-00994605	The York Water Company	Depreciation
04.	2000	D.T.&E.	DTE 00-105	Massachusetts-American Water Company	Depreciation
05.	2001	PA PUC	R-00016114	City of Lancaster	Original Cost and Depreciation
06.	2001	PA PUC	R-00017236	The York Water Company	Depreciation
07.	2001	PA PUC	R-00016339	Pennsylvania-American Water Company	Depreciation
08.	2001	OH PUC	01-1228-GA-AIR	Cinergy Corp – Cincinnati Gas & Elect Company	Depreciation
09.	2001	KY PSC	2001-092	Cinergy Corp – Union Light, Heat & Power Co.	Depreciation
10.	2002	PA PUC	R-00016750	Philadelphia Suburban Water Company	Depreciation
11.	2002	KY PSC	2002-00145	Columbia Gas of Kentucky	Depreciation
12.	2002	NJ BPU	GF02040245	NUI Corporation/Elizabethtown Gas Company	Depreciation
13.	2002	ID PUC	IPC-E-03-7	Idaho Power Company	Depreciation
14.	2003	PA PUC	R-0027975	The York Water Company	Depreciation
15.	2003	IN URC	R-0027975	Cinergy Corp – PSI Energy, Inc.	Depreciation
16.	2003	PA PUC	R-00038304	Pennsylvania-American Water Company	Depreciation
17.	2003	MO PSC	WR-2003-0500	Missouri-American Water Company	Depreciation
18.	2003	FERC	ER03-1274-000	NSTAR-Boston Edison Company	Depreciation
19.	2003	NJ BPU	BPU 03080683	South Jersey Gas Company	Depreciation
20.	2003	NV PUC	03-10001	Nevada Power Company	Depreciation
21.	2003	LA PSC	U-27676	CenterPoint Energy – Arkla	Depreciation
22.	2003	PA PUC	R-00038805	Pennsylvania Suburban Water Company	Depreciation
23.	2004	AB En/Util Bd	1306821	EPCOR Distribution, Inc.	Depreciation
24.	2004	PA PUC	R-00038168	National Fuel Gas Distribution Corp (PA)	Depreciation
25.	2004	PA PUC	R-00049255	PPL Electric Utilities	Depreciation
26.	2004	PA PUC	R-00049165	The York Water Company	Depreciation
27.	2004	OK Corp Cm	PUC 200400187	CenterPoint Energy – Arkla	Depreciation
28.	2004	OH PUC	04-680-EI-AIR	Cinergy Corp. – Cincinnati Gas and Electric Company	Depreciation
29.	2004	RR Com of TX	GUD#	CenterPoint Energy – Entex Gas Services Div.	Depreciation
30.	2004	NY PUC	04-G-1047	National Fuel Gas Distribution Gas (NY)	Depreciation
31.	2004	AR PSC	04-121-U	CenterPoint Energy – Arkla	Depreciation
32.	2005	IL CC	05-ICC-06	North Shore Gas Company	Depreciation
33.	2005	IL CC	05-ICC-06	Peoples Gas Light and Coke Company	Depreciation
34.	2005	KY PSC	2005-00042	Union Light Heat & Power	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
35.	2005	IL CC	05-0308	MidAmerican Energy Company	Depreciation
36.	2005	MO PSC	GF-2005	Laclede Gas Company	Depreciation
37.	2005	KS CC	05-WSEE-981-RTS	Westar Energy	Depreciation
38.	2005	RR Com of TX	GUD #	CenterPoint Energy – Entex Gas Services Div.	Depreciation
39.	2005	US District Court	Cause No. 1:99-CV-1693- LJM/VSS	Cinergy Corporation	Accounting
40.	2005	OK CC	PUD 200500151	Oklahoma Gas and Electric Company	Depreciation
41.	2005	MA Dept Tele- com & Ergy	DTE 05-85	NSTAR	Depreciation
42.	2005	NY PUC	05-E-934/05-G-0935	Central Hudson Gas & Electric Company	Depreciation
43.	2005	AK Reg Com	U-04-102	Chugach Electric Association	Depreciation
44.	2005	CA PUC	A05-12-002	Pacific Gas & Electric	Depreciation
45.	2006	PA PUC	R-00051030	Aqua Pennsylvania, Inc.	Depreciation
46.	2006	PA PUC	R-00051178	T.W. Phillips Gas and Oil Company	Depreciation
47.	2006	NC Util Cm.	G-5, Sub522	Pub. Service Company of North Carolina	Depreciation
48.	2006	PA PUC	R-00051167	City of Lancaster	Depreciation
49.	2006	PA PUC	R00061346	Duquesne Light Company	Depreciation
50.	2006	PA PUC	R-00061322	The York Water Company	Depreciation
51.	2006	PA PUC	R-00051298	PPL GAS Utilities	Depreciation
52.	2006	PUC of TX	32093	CenterPoint Energy – Houston Electric	Depreciation
53.	2006	KY PSC	2006-00172	Duke Energy Kentucky	Depreciation
54.	2006	SC PSC		SCANA	Accounting
55.	2006	AK Reg Com	U-06-6	Municipal Light and Power	Depreciation
56.	2006	DE PSC	06-284	Delmarva Power and Light	Depreciation
57.	2006	IN URC	IURC43081	Indiana American Water Company	Depreciation
58.	2006	AK Reg Com	U-06-134	Chugach Electric Association	Depreciation
59.	2006	MO PSC	WR-2007-0216	Missouri American Water Company	Depreciation
60.	2006	FERC	IS05-82-002, et al	TransAlaska Pipeline	Depreciation
61.	2006	PA PUC	R-00061493	National Fuel Gas Distribution Corp. (PA)	Depreciation
62.	2007	NC Util Com.	E-7 SUB 828	Duke Energy Carolinas, LLC	Depreciation
63.	2007	OH PSC	08-709-EL-AIR	Duke Energy Ohio Gas	Depreciation
64.	2007	PA PUC	R-00072155	PPL Electric Utilities Corporation	Depreciation
65.	2007	KY PSC	2007-00143	Kentucky American Water Company	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
66.	2007	PA PUC	R-00072229	Pennsylvania American Water Company	Depreciation
67.	2007	KY PSC	2007-0008	NiSource – Columbia Gas of Kentucky	Depreciation
68.	2007	NY PSC	07-G-0141	National Fuel Gas Distribution Corp (NY)	Depreciation
69.	2008	AK PSC	U-08-004	Anchorage Water & Wastewater Utility	Depreciation
70.	2008	TN Reg Auth	08-00039	Tennessee-American Water Company	Depreciation
71.	2008	DE PSC	08-96	Artesian Water Company	Depreciation
72.	2008	PA PUC	R-2008-2023067	The York Water Company	Depreciation
73.	2008	KS CC	08-WSEE1-RTS	Westar Energy	Depreciation
74.	2008	IN URC	43526	Northern Indiana Public Service Company	Depreciation
75.	2008	IN URC	43501	Duke Energy Indiana	Depreciation
76.	2008	MD PSC	9159	NiSource – Columbia Gas of Maryland	Depreciation
77.	2008	KY PSC	2008-000251	Kentucky Utilities	Depreciation
78.	2008	KY PSC	2008-000252	Louisville Gas & Electric	Depreciation
79.	2008	PA PUC	2008-20322689	Pennsylvania American Water Co. - Wastewater	Depreciation
80.	2008	NY PSC	08-E887/08-00888	Central Hudson	Depreciation
81.	2008	WV TC	VE-080416/VG-8080417	Avista Corporation	Depreciation
82.	2008	IL CC	ICC-09-166	Peoples Gas, Light and Coke Company	Depreciation
83.	2009	IL CC	ICC-09-167	North Shore Gas Company	Depreciation
84.	2009	DC PSC	1076	Potomac Electric Power Company	Depreciation
85.	2009	KY PSC	2009-00141	NiSource – Columbia Gas of Kentucky	Depreciation
86.	2009	FERC	ER08-1056-002	Entergy Services	Depreciation
87.	2009	PA PUC	R-2009-2097323	Pennsylvania American Water Company	Depreciation
88.	2009	NC Util Cm	E-7, Sub 090	Duke Energy Carolinas, LLC	Depreciation
89.	2009	KY PSC	2009-00202	Duke Energy Kentucky	Depreciation
90.	2009	VA St. CC	PUE-2009-00059	Aqua Virginia, Inc.	Depreciation
91.	2009	PA PUC	2009-2132019	Aqua Pennsylvania, Inc.	Depreciation
92.	2009	MS PSC	Docket No. 2011-UA-183	Entergy Mississippi	Depreciation
93.	2009	AK PSC	09-08-U	Entergy Arkansas	Depreciation
94.	2009	TX PUC	37744	Entergy Texas	Depreciation
95.	2009	TX PUC	37690	El Paso Electric Company	Depreciation
96.	2009	PA PUC	R-2009-2106908	The Borough of Hanover	Depreciation
97.	2009	KS CC	10-KCPE-415-RTS	Kansas City Power & Light	Depreciation
98.	2009	PA PUC	R-2009-	United Water Pennsylvania	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
99.	2009	OH PUC		Aqua Ohio Water Company	Depreciation
100.	2009	WI PSC	3270-DU-103	Madison Gas & Electric Company	Depreciation
101.	2009	MO PSC	WR-2010	Missouri American Water Company	Depreciation
102.	2009	AK Reg Cm	U-09-097	Chugach Electric Association	Depreciation
103.	2010	IN URC	43969	Northern Indiana Public Service Company	Depreciation
104.	2010	WI PSC	6690-DU-104	Wisconsin Public Service Corp.	Depreciation
105.	2010	PA PUC	R-2010-2161694	PPL Electric Utilities Corp.	Depreciation
106.	2010	KY PSC	2010-00036	Kentucky American Water Company	Depreciation
107.	2010	PA PUC	R-2009-2149262	Columbia Gas of Pennsylvania	Depreciation
108.	2010	MO PSC	GR-2010-0171	Laclede Gas Company	Depreciation
109.	2010	SC PSC	2009-489-E	South Carolina Electric & Gas Company	Depreciation
110.	2010	NJ BD OF PU	ER09080664	Atlantic City Electric	Depreciation
111.	2010	VA St. CC	PUE-2010-00001	Virginia American Water Company	Depreciation
112.	2010	PA PUC	R-2010-2157140	The York Water Company	Depreciation
113.	2010	MO PSC	ER-2010-0356	Greater Missouri Operations Company	Depreciation
114.	2010	MO PSC	ER-2010-0355	Kansas City Power and Light	Depreciation
115.	2010	PA PUC	R-2010-2167797	T.W. Phillips Gas and Oil Company	Depreciation
116.	2010	PSC SC	2009-489-E	SCANA – Electric	Depreciation
117.	2010	PA PUC	R-2010-22010702	Peoples Natural Gas, LLC	Depreciation
118.	2010	AK PSC	10-067-U	Oklahoma Gas and Electric Company	Depreciation
119.	2010	IN URC	Cause No. 43894	Northern Indiana Public Serv. Company - NIFL	Depreciation
120.	2010	IN URC	Cause No. 43894	Northern Indiana Public Serv. Co. - Kokomo	Depreciation
121.	2010	PA PUC	R-2010-2166212	Pennsylvania American Water Co. - WW	Depreciation
122.	2010	NC Util Cn.	W-218,SUB310	Aqua North Carolina, Inc.	Depreciation
123.	2011	OH PUC	11-4161-WS-AIR	Ohio American Water Company	Depreciation
124.	2011	MS PSC	EC-123-0082-00	Entergy Mississippi	Depreciation
125.	2011	CO PUC	11AL-387E	Black Hills Colorado	Depreciation
126.	2011	PA PUC	R-2010-2215623	Columbia Gas of Pennsylvania	Depreciation
127.	2011	PA PUC	R-2010-2179103	City of Lancaster – Bureau of Water	Depreciation
128.	2011	IN URC	43114 IGCC 4S	Duke Energy Indiana	Depreciation
129.	2011	FERC	IS11-146-000	Enbridge Pipelines (Southern Lights)	Depreciation
130.	2011	IL CC	11-0217	MidAmerican Energy Corporation	Depreciation
131.	2011	OK CC	201100087	Oklahoma Gas & Electric Company	Depreciation
132.	2011	PA PUC	2011-2232243	Pennsylvania American Water Company	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
133.	2011	FERC	RP11-____-000	Carolina Gas Transmission	Depreciation
134.	2012	WA UTC	UE-120436/UG-120437	Avista Corporation	Depreciation
135.	2012	AK Reg Cm	U-12-009	Chugach Electric Association	Depreciation
136.	2012	MA PUC	DPU 12-25	Columbia Gas of Massachusetts	Depreciation
137.	2012	TX PUC	40094	El Paso Electric Company	Depreciation
138.	2012	ID PUC	IPC-E-12	Idaho Power Company	Depreciation
139.	2012	PA PUC	R-2012-2290597	PPL Electric Utilities	Depreciation
140.	2012	PA PUC	R-2012-2311725	Borough of Hanover – Bureau of Water	Depreciation
141.	2012	KY PSC	2012-00222	Louisville Gas and Electric Company	Depreciation
142.	2012	KY PSC	2012-00221	Kentucky Utilities Company	Depreciation
143.	2012	PA PUC	R-2012-2285985	Peoples Natural Gas Company	Depreciation
144.	2012	DC PSC	Case 1087	Potomac Electric Power Company	Depreciation
145.	2012	OH PSC	12-1682-EL-AIR	Duke Energy Ohio (Electric)	Depreciation
146.	2012	OH PSC	12-1685-GA-AIR	Duke Energy Ohio (Gas)	Depreciation
147.	2012	PA PUC	R-2012-2310366	City of Lancaster – Sewer Fund	Depreciation
148.	2012	PA PUC	R-2012-2321748	Columbia Gas of Pennsylvania	Depreciation
149.	2012	FERC	ER-12-2681-000	ITC Holdings	Depreciation
150.	2012	MO PSC	ER-2012-0174	Kansas City Power and Light	Depreciation
151.	2012	MO PSC	ER-2012-0175	KCPL Greater Missouri Operations Company	Depreciation
152.	2012	MO PSC	GO-2012-0363	Laclede Gas Company	Depreciation
153.	2012	MN PUC	G007,001/D-12-533	Integrus – MN Energy Resource Group	Depreciation
154.	2012	TX PUC	SOAH 582-14-1051/ TECQ 2013-2007-UCR	Aqua Texas	Depreciation
155.	2012	PA PUC	2012-2336379	York Water Company	Depreciation
156.	2013	NJ BPU	ER12121071	PHI Service Company– Atlantic City Electric	Depreciation
157.	2013	KY PSC	2013-00167	Columbia Gas of Kentucky	Depreciation
158.	2013	VA St CC	2013-00020	Virginia Electric and Power Company	Depreciation
159.	2013	IA Util Bd	2013-0004	MidAmerican Energy Corporation	Depreciation
160.	2013	PA PUC	2013-2355276	Pennsylvania American Water Company	Depreciation
161.	2013	NY PSC	13-E-0030, 13-G-0031, 13-S-0032	Consolidated Edison of New York	Depreciation
162.	2013	PA PUC	2013-2355886	Peoples TWP LLC	Depreciation
163.	2013	TN Reg Auth	12-0504	Tennessee American Water	Depreciation
164.	2013	ME PUC	2013-168	Central Maine Power Company	Depreciation
165.	2013	DC PSC	Case 1103	PHI Service Company – PEPCO	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
166.	2013	WY PSC	2003-ER-13	Cheyenne Light, Fuel and Power Company	Depreciation
167.	2013	FERC	ER13-2428-0000	Kentucky Utilities	Depreciation
168.	2013	FERC	ER13- -0000	MidAmerican Energy Company	Depreciation
169.	2013	FERC	ER13-2410-0000	PPL Utilities	Depreciation
170.	2013	PA PUC	R-2013-2372129	Duquesne Light Company	Depreciation
171.	2013	NJ BPU	ER12111052	Jersey Central Power and Light Company	Depreciation
172.	2013	PA PUC	R-2013-2390244	Bethlehem, City of – Bureau of Water	Depreciation
173.	2013	OK CC	UM 1679	Oklahoma, Public Service Company of	Depreciation
174.	2013	IL CC	13-0500	Nicor Gas Company	Depreciation
175.	2013	WY PSC	20000-427-EA-13	PacifiCorp	Depreciation
176.	2013	UT PSC	13-035-02	PacifiCorp	Depreciation
177.	2013	OR PUC	UM 1647	PacifiCorp	Depreciation
178.	2013	PA PUC	2013-2350509	Dubois, City of	Depreciation
179.	2014	IL CC	14-0224	North Shore Gas Company	Depreciation
180.	2014	FERC	ER14- -0000	Duquesne Light Company	Depreciation
181.	2014	SD PUC	EL14-026	Black Hills Power Company	Depreciation
182.	2014	WY PSC	20002-91-ER-14	Black Hills Power Company	Depreciation
183.	2014	PA PUC	2014-2428304	Borough of Hanover – Municipal Water Works	Depreciation
184.	2014	PA PUC	2014-2406274	Columbia Gas of Pennsylvania	Depreciation
185.	2014	IL CC	14-0225	Peoples Gas Light and Coke Company	Depreciation
186.	2014	MO PSC	ER-2014-0258	Ameren Missouri	Depreciation
187.	2014	KS CC	14-BHCG-502-RTS	Black Hills Service Company	Depreciation
188.	2014	KS CC	14-BHCG-502-RTS	Black Hills Utility Holdings	Depreciation
189.	2014	KS CC	14-BHCG-502-RTS	Black Hills Kansas Gas	Depreciation
190.	2014	PA PUC	2014-2418872	Lancaster, City of – Bureau of Water	Depreciation
191.	2014	WV PSC	14-0701-E-D	First Energy – MonPower/PotomacEdison	Depreciation
192.	2014	VA St CC	PUC-2014-00045	Aqua Virginia	Depreciation
193.	2014	VA St CC	PUE-2013	Virginia American Water Company	Depreciation
194.	2014	OK CC	PUD201400229	Oklahoma Gas and Electric Company	Depreciation
195.	2014	OR PUC	UM1679	Portland General Electric	Depreciation
196.	2014	IN URC	Cause No. 44576	Indianapolis Power & Light	Depreciation
197.	2014	MA DPU	DPU. 14-150	NSTAR Gas	Depreciation
198.	2014	CT PURA	14-05-06	Connecticut Light and Power	Depreciation
199.	2014	MO PSC	ER-2014-0370	Kansas City Power & Light	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
200.	2014	KY PSC	2014-00371	Kentucky Utilities Company	Depreciation
201.	2014	KY PSC	2014-00372	Louisville Gas and Electric Company	Depreciation
202.	2015	PA PUC	R-2015-2462723	United Water Pennsylvania Inc.	Depreciation
203.	2015	PA PUC	R-2015-2468056	NiSource - Columbia Gas of Pennsylvania	Depreciation
204.	2015	NY PSC	15-E-0283/15-G-0284	New York State Electric and Gas Corporation	Depreciation
205.	2015	NY PSC	15-E-0285/15-G-0286	Rochester Gas and Electric Corporation	Depreciation
206.	2015	MO PSC	WR-2015-0301/SR-2015-0302	Missouri American Water Company	Depreciation
207.	2015	OK CC	PUD 201500208	Oklahoma, Public Service Company of	Depreciation
208.	2015	WV PSC	15-0676-W-42T	West Virginia American Water Company	Depreciation
209.	2015	PA PUC	2015-2469275	PPL Electric Utilities	Depreciation
210.	2015	IN URC	Cause No. 44688	Northern Indiana Public Service Company	Depreciation
211.	2015	OH PSC	14-1929-EL-RDR	First Energy-Ohio Edison/Cleveland Electric/ Toledo Edison	Depreciation
212.	2015	NM PRC	15-00127-UT	El Paso Electric	Depreciation
213.	2015	TX PUC	PUC-44941; SOAH 473-15-5257	El Paso Electric	Depreciation
214.	2015	WI PSC	3270-DU-104	Madison Gas and Electric Company	Depreciation
215.	2015	OK CC	PUD 201500273	Oklahoma Gas and Electric	Depreciation
216.	2015	KY PSC	Doc. No. 2015-00418	Kentucky American Water Company	Depreciation
217.	2015	NC UC	Doc. No. G-5, Sub 565	Public Service Company of North Carolina	Depreciation
218.	2016	WA UTC	Docket UE-17	Puget Sound Energy	Depreciation
219.	2016	NY PSC	Case No. 16-W-0130	SUEZ Water New York, Inc.	Depreciation
220.	2016	MO PSC	ER-2016-0156	KCPL – Greater Missouri	Depreciation
221.	2016	WI PSC		Wisconsin Public Service Corporation	Depreciation
222.	2016	KY PSC	Case No. 2016-00026	Kentucky Utilities Company	Depreciation
223.	2016	KY PSC	Case No. 2016-00027	Louisville Gas and Electric Company	Depreciation
224.	2016	OH PUC	Case No. 16-0907-WW-AIR	Aqua Ohio	Depreciation
225.	2016	MD PSC	Case 9417	NiSource - Columbia Gas of Maryland	Depreciation
226.	2016	KY PSC	2016-00162	Columbia Gas of Kentucky	Depreciation
227.	2016	DE PSC	16-0649	Delmarva Power and Light Company – Electric	Depreciation
228.	2016	DE PSC	16-0650	Delmarva Power and Light Company – Gas	Depreciation
229.	2016	NY PSC	Case 16-G-0257	National Fuel Gas Distribution Corp – NY Div	Depreciation
230.	2016	PA PUC	R-2016-2537349	Metropolitan Edison Company	Depreciation
231.	2016	PA PUC	R-2016-2537352	Pennsylvania Electric Company	Depreciation
232.	2016	PA PUC	R-2016-2537355	Pennsylvania Power Company	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
233.	2016	PA PUC	R-2016-2537359	West Penn Power Company	Depreciation
234.	2016	PA PUC	R-2016-2529660	NiSource - Columbia Gas of PA	Depreciation
235.	2016	KY PSC	Case No. 2016-00063	Kentucky Utilities / Louisville Gas & Electric Co	Depreciation
236.	2016	MO PSC	ER-2016-0285	KCPL Missouri	Depreciation
237.	2016	AR PSC	16-052-U	Oklahoma Gas & Electric Co	Depreciation
238.	2016	PSCW	6680-DU-104	Wisconsin Power and Light	Depreciation
239.	2016	ID PUC	IPC-E-16-23	Idaho Power Company	Depreciation
240.	2016	OR PUC	UM1801	Idaho Power Company	Depreciation
241.	2016	ILL CC	16-	MidAmerican Energy Company	Depreciation
242.	2016	KY PSC	Case No. 2016-00370	Kentucky Utilities Company	Depreciation
243.	2016	KY PSC	Case No. 2016-00371	Louisville Gas and Electric Company	Depreciation
244.	2016	IN URC	Cause No. 45029	Indianapolis Power & Light	Depreciation
245.	2016	AL RC	U-16-081	Chugach Electric Association	Depreciation
246.	2017	MA DPU	D.P.U. 17-05	NSTAR Electric Company and Western Massachusetts Electric Company	Depreciation
247.	2017	TX PUC	PUC-26831, SOAH 973-17-2686	El Paso Electric Company	Depreciation
248.	2017	WA UTC	UE-17033 and UG-170034	Puget Sound Energy	Depreciation
249.	2017	OH PUC	Case No. 17-0032-EL-AIR	Duke Energy Ohio	Depreciation
250.	2017	VA SCC	Case No. PUE-2016-00413	Virginia Natural Gas, Inc.	Depreciation
251.	2017	OK CC	Case No. PUD201700151	Public Service Company of Oklahoma	Depreciation
252.	2017	MD PSC	Case No. 9447	Columbia Gas of Maryland	Depreciation
253.	2017	NC UC	Docket No. E-2, Sub 1142	Duke Energy Progress	Depreciation
254.	2017	VA SCC	Case No. PUR-2017-00090	Dominion Virginia Electric and Power Company	Depreciation
255.	2017	FERC	ER17-1162	MidAmerican Energy Company	Depreciation
256.	2017	PA PUC	R-2017-2595853	Pennsylvania American Water Company	Depreciation
257.	2017	OR PUC	UM1809	Portland General Electric	Depreciation
258.	2017	FERC	ER17-217-000	Jersey Central Power & Light	Depreciation
259.	2017	FERC	ER17-211-000	Mid-Atlantic Interstate Transmission, LLC	Depreciation
260.	2017	MN PUC	Docket No. G007/D-17-442	Minnesota Energy Resources Corporation	Depreciation
261.	2017	IL CC	Docket No. 17-0124	Northern Illinois Gas Company	Depreciation
262.	2017	OR PUC	UM1808	Northwest Natural Gas Company	Depreciation
263.	2017	NY PSC	Case No. 17-W-0528	SUEZ Water Owego-Nichols	Depreciation
264.	2017	MO PSC	GR-2017-0215	Laclede Gas Company	Depreciation
265.	2017	MO PSC	GR-2017-0216	Missouri Gas Energy	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
266.	2017	ILL CC	Docket No. 17-0337	Illinois-American Water Company	Depreciation
267.	2017	FERC	Docket No. ER18-22-000	PPL Electric Utilities Corporation	Depreciation
268.	2017	IN URC	Cause No. 44988	Northern Indiana Public Service Company	Depreciation
269.	2017	NJ BPU	BPU Docket No. WR17090985	New Jersey American Water Company, Inc.	Depreciation
270.	2017	RI PUC	Docket No. 4800	SUEZ Water Rhode Island	Depreciation
271.	2017	OK CC	Cause No. PUD 201700496	Oklahoma Gas and Electric Company	Depreciation
272.	2017	NJ BPU	ER18010029 & GR18010030	Public Service Electric and Gas Company	Depreciation
273.	2017	NC Util Com.	Docket No. E-7, SUB 1146	Duke Energy Carolinas, LLC	Depreciation
274.	2017	KY PSC	Case No. 2017-00321	Duke Energy Kentucky, Inc.	Depreciation
275.	2017	MA DPU	D.P.U. 18-40	Berkshire Gas Company	Depreciation
276.	2018	IN IURC	Cause No. 44992	Indiana-American Water Company, Inc.	Depreciation
277.	2018	IN IURC	Cause No. 45029	Indianapolis Power and Light	Depreciation
278.	2018	NC Util Com.	Docket No. W-218, Sub 497	Aqua North Carolina, Inc.	Depreciation
279.	2018	PA PUC	Docket No. R-2018-2647577	NiSource - Columbia Gas of Pennsylvania, Inc.	Depreciation
280.	2018	OR PUC	Docket UM 1933	Avista Corporation	Depreciation
281.	2018	WA UTC	Docket No. UE-108167	Avista Corporation	Depreciation
282.	2018	ID PUC	AVU-E-18-03, AVU-G-18-02	Avista Corporation	Depreciation
283.	2018	IN URC	Cause No. 45039	Citizens Energy Group	Depreciation
284.	2018	FERC	Docket No. ER18-	Duke Energy Progress	Depreciation
285.	2018	PA PUC	Docket No. R-2018-3000124	Duquesne Light Company	Depreciation
286.	2018	MD PSC	Case No. 948	NiSource - Columbia Gas of Maryland	Depreciation
287.	2018	MA DPU	D.P.U. 18-45	NiSource - Columbia Gas of Massachusetts	Depreciation
288.	2018	OH PUC	Case No. 18-0299-GA-ALT	Vectren Energy Delivery of Ohio	Depreciation
289.	2018	PA PUC	Docket No. R-2018-3000834	SUEZ Water Pennsylvania Inc.	Depreciation
290.	2018	MD PSC	Case No. 9847	Maryland-American Water Company	Depreciation
291.	2018	PA PUC	Docket No. R-2018-3000019	The York Water Company	Depreciation
292.	2018	FERC	ER-18-2231-000	Duke Energy Carolinas, LLC	Depreciation
293.	2018	KY PSC	Case No. 2018-00261	Duke Energy Kentucky, Inc.	Depreciation
294.	2018	NJ BPU	BPU Docket No. WR18050593	SUEZ Water New Jersey	Depreciation
295.	2018	WA UTC	Docket No. UE-180778	PacifiCorp	Depreciation
296.	2018	UT PSC	Docket No. 18-035-36	PacifiCorp	Depreciation
297.	2018	OR PUC	Docket No. UM-1968	PacifiCorp	Depreciation
298.	2018	ID PUC	Case No. PAC-E-18-08	PacifiCorp	Depreciation
299.	2018	WY PSC	20000-539-EA-18	PacifiCorp	Depreciation
300.	2018	PA PUC	Docket No. R-2018-3003068	Aqua Pennsylvania, Inc.	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
301.	2018	IL CC	Docket No. 18-1467	Aqua Illinois, Inc.	Depreciation
302.	2018	KY PSC	Case No. 2018-00294	Louisville Gas & Electric Company	Depreciation
303.	2018	KY PSC	Case No. 2018-00295	Kentucky Utilities Company	Depreciation
304.	2018	IN URC	Cause No. 45159	Northern Indiana Public Service Company	Depreciation
305.	2018	VA SCC	Case No. PUR-2019-00175	Virginia American Water Company	Depreciation
306.	2019	PA PUC	Docket No. R-2018-3006818	Peoples Natural Gas Company, LLC	Depreciation
307.	2019	OK CC	Cause No. PUD201800140	Oklahoma Gas and Electric Company	Depreciation
308.	2019	MD PSC	Case No. 9490	FirstEnergy – Potomac Edison	Depreciation
309.	2019	SC PSC	Docket No. 2018-318-E	Duke Energy Progress	Depreciation
310.	2019	SC PSC	Docket No. 2018-319-E	Duke Energy Carolinas	Depreciation
311.	2019	DE PSC	DE 19-057	Public Service of New Hampshire	Depreciation
312.	2019	NY PSC	Case No. 19-W-0168 & 19-W-0269	SUEZ Water New York	Depreciation
313.	2019	PA PUC	Docket No. R-2019-3006904	Newtown Artesian Water Company	Depreciation
314.	2019	MO PSC	ER-2019-0335	Ameren Missouri	Depreciation
315.	2019	MO PSC	EC-2019-0200	KCP&L Greater Missouri Operations Company	Depreciation
316.	2019	MN DOC	G011/D-19-377	Minnesota Energy Resource Corp.	Depreciation
317.	2019	NY PSC	Case 19-E-0378 & 19-G-0379	New York State Electric and Gas Corporation	Depreciation
318.	2019	NY PSC	Case 19-E-0380 & 19-G-0381	Rochester Gas and Electric Corporation	Depreciation
319.	2019	WA UTC	Docket UE-190529 / UG-190530	Puget Sound Energy	Depreciation
320.	2019	PA PUC	Docket No. R-2019-3010955	City of Lancaster	Depreciation
321.	2019	IURC	Cause No. 45253	Duke Energy Indiana	Depreciation
322.	2019	KY PSC	Case No. 2019-00271	Duke Energy Kentucky, Inc.	Depreciation
323.	2019	OH PUC	Case No. 18-1720-GA-AIR	Northeast Ohio Natural Gas Corp	Depreciation
324.	2019	NC Util. Com.	Docket No. E-2, Sub 1219	Duke Energy Carolinas	Depreciation
325.	2019	FERC	Docket No. ER20-277-000	Jersey Central Power & Light Company	Depreciation
326.	2019	MA DPU	D.P.U. 19-120	NSTAR Gas Company	Depreciation
327.	2019	SC PSC	Docket No. 2019-290-WS	Blue Granite Water Company	Depreciation
328.	2019	NC Util. Com.	Docket No. E-2, Sub 1219	Duke Energy Progress	Depreciation
329.	2019	MD PSC	Case No. 9609	NiSource Columbia Gas of Maryland, Inc.	Depreciation
330.	2020	NJ BPU	Docket No. ER20020146	Jersey Central Power & Light Company	Depreciation
331.	2020	PA PUC	Docket No. R-2020-3018835	NiSource - Columbia Gas of Pennsylvania, Inc.	Depreciation
332.	2020	PA PUC	Docket No. R-2020-3019369	Pennsylvania-American Water Company	Depreciation
333.	2020	PA PUC	Docket No. R-2020-3019371	Pennsylvania-American Water Company	Depreciation
334.	2020	MO PSC	GO-2018-0309, GO-2018-0310	Spire Missouri, Inc.	Depreciation
335.	2020	NM PRC	Case No. 20-00104-UT	El Paso Electric Company	Depreciation
336.	2020	MD PSC	Case No. 9644	Columbia Gas of Maryland, Inc.	Depreciation
337.	2020	MO PSC	GO-2018-0309, GO-2018-0310	Spire Missouri, Inc.	Depreciation
338.	2020	VA St CC	Case No. PUR-2020-00095	Virginia Natural Gas Company	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
339.	2020	SC PSC	Docket No. 2020-125-E	Dominion Energy South Carolina, Inc.	Depreciation
340.	2020	WV PSC	Case No. 20-0745-G-D	Hope Gas, Inc. d/b/a Dominion Energy West Virginia	Depreciation
341.	2020	VA St CC	Case No. PUR-2020-00106	Aqua Virginia, Inc.	Depreciation
342.	2020	PA PUC	Docket No. R-2020-3020256	City of Bethlehem – Bureau of Water	Depreciation
343.	2020	NE PSC	Docket No. NG-109	Black Hills Nebraska	Depreciation
344.	2020	NY PSC	Case No. 20-E-0428 & 20-G-0429	Central Hudson Gas & Electric Corporation	Depreciation
345.	2020	FERC	ER20-598	Duke Energy Indiana	Depreciation
346.	2020	FERC	ER20-855	Northern Indiana Public Service Company	Depreciation
347.	2020	OR PSC	UE 374	Pacificorp	Depreciation
348.	2020	MD PSC	Case No. 9490 Phase II	Potomac Edison – Maryland	Depreciation
349.	2020	IN URC	Case No. 45447	Southern Indiana Gas and Electric Company	Depreciation
350.	2020	IN URC	IURC Cause No. 45468	Indiana Gas Company, Inc. d/b/a Vectren Energy	Depreciation
351.	2020	KY PSC	Case No. 2020-00349	Kentucky Utilities Company	Depreciation
352.	2020	KY PSC	Case No. 2020-00350	Louisville Gas and Electric Company	Depreciation
353.	2020	FERC	Docket No. ER21- 000	South FirstEnergy Operating Companies	Depreciation
354.	2020	OH PUC	Case Nos 20-1651-EL-AIR, 20-1652-EL-AAM & 20-1653-EL-ATA	Dayton Power and Light Company	Depreciation
355.	2020	OR PSC	UE 388	Northwest Natural Gas Company	Depreciation
356.	2020	MO PSC	Case no. GR-2021-0241	Ameren Missouri Gas	Depreciation
357.	2021	KY PSC	Case No. 2021-00103	East Kentucky Power Cooperative	Depreciation
358.	2021	MPUC	Docket No. 2021-00024	Bangor Natural Gas	Depreciation
359.	2021	PA PUC	Docket No. R-2021-3024296	Columbia Gas of Pennsylvania, Inc.	Depreciation
360.	2021	NC Util. Com.	Doc. No. G-5, Sub 632	Public Service of North Carolina	Depreciation
361.	2021	MO PSC	ER-2021-0240	Ameren Missouri	Depreciation
362.	2021	PA PUC	Docket No. R-2021-3024750	Duquesne Light Company	Depreciation
363.	2021	KS PSC	21-BHCG-418-RTS	Black Hills Kansas Gas	Depreciation
364.	2021	KY PSC	Case No. 2021-00190	Duke Energy Kentucky	Depreciation
365.	2021	OR PSC	Docket UM 2152	Portland General Electric	Depreciation
366.	2021	ILL CC	Docket No. 20-0810	North Shore Gas Company	Depreciation
367.	2021	FERC	ER21-1939-000	Duke Energy Progress	Depreciation
368.	2021	FERC	ER21-1940-000	Duke Energy Carolina	Depreciation
369.	2021	KY PSC	Case No. 2021-00183	NiSource Columbia Gas of Kentucky	Depreciation
370.	2021	MD PSC	Case No. 9664	NiSource Columbia Gas of Maryland	Depreciation
371.	2021	OH PUC	Case No. 21-0596-ST-AIR	Aqua Ohio	Depreciation
372.	2021	PA PUC	Docket No. R-2021-3026116	Hanover Borough Municipal Water Works	Depreciation
373.	2021	WPSC	6690-DU-104	Wisconsin Public Service Company	Depreciation
374.	2021	PAPUC	Docket No. R-2021-3026116	Borough of Hanover	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
375.	2021	OH PUC	Case No. 21-637-GA-AIR; Case No. 21-638-GA-ALT; Case No. 21-639-GA-UNC; Case No. 21-640-GA-AAM	NiSource Columbia Gas of Ohio	Depreciation
376.	2021	TX PUC	Texas PUC Docket No. 52195; SOHA Docket No. 473-21-2606	El Paso Electric	Depreciation
377.	2021	MO PSC	Case No. GR.2021-0108	Spire Missouri	Depreciation
378.	2021	WV PSC	Case No. 21-0215-WS-P	West Virginia American Water Company	Depreciation

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**DOCKET NOS. R-2021-3027385, R-2021-3027386**

**AQUA PENNSYLVANIA, INC.  
AQUA PENNSYLVANIA WASTEWATER, INC.**

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**PREPARED DIRECT TESTIMONY OF  
CHRISTINE L. SABALL**

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**Topics Addressed:**

**Act 40  
Flow-Through of Deductions For Repairs  
Income Tax Expense  
Federal Income Tax Rider**

DATE SERVED: August 20, 2021  
DATE ADMITTED: \_\_\_\_\_

**Aqua Statement No. 8**

## TABLE OF CONTENTS

	<b>Page</b>
I. INTRODUCTION AND PURPOSE OF TESTIMONY .....	1
II. ACT 40.....	3
III. REPAIRS DEDUCTIONS FOR RATEMAKING PURPOSES .....	4
IV. THE COMPANY’S CALCULATION OF FEDERAL AND STATE INCOME TAXES.....	6
V. THE COMPANY’S REQUEST FOR A FEDERAL TAX ADJUSTMENT CLAUSE RIDER.....	14
VI. CONCLUSION.....	18

1                   **I.       INTRODUCTION AND PURPOSE OF TESTIMONY**

2       **Q.     What is your name and business address?**

3       A.     My name is Christine Saball, and my business address is 762 W Lancaster Avenue, Bryn  
4           Mawr, Pennsylvania 19010.

5       **Q.     By whom are you employed and in what capacity?**

6       A.     I am the Vice President of Tax for Essential Utilities, Inc. (“Essential”), the parent company  
7           of Aqua Pennsylvania, Inc. and Aqua Pennsylvania Wastewater, Inc. (collectively “Aqua  
8           PA”, “AP”, or the “Company”).

9       **Q.     Would you please relate your education and business experience?**

10      A.     I graduated from Boston University’s Questrom School of Business in 1999 with a  
11           Bachelor of Science degree in Business Administration, with a concentration in  
12           Accounting. I am a certified public accountant (“CPA”) in the Commonwealth of  
13           Pennsylvania. I have held various positions in public accounting at regional firms in New  
14           England and obtained my CPA license in 2003. I began my career in the utility industry  
15           in October 2003, when I joined National Grid as a Senior Tax Analyst. At National Grid,  
16           I had the opportunity to support the ratemaking process by reviewing the utility’s accrual  
17           for income tax liability, calculating its year end provision to actual Federal and state  
18           liability calculations, and analyzing the flow through and normalized deferred accounts.

19           Prior to joining Essential in May 2019, I was employed by Connecticut Water  
20           Company (“Connecticut Water”) for ten years. I started as a Tax Manager in the Finance  
21           Department and held that position for five years, and then was promoted to the position of  
22           Tax Director and held that position for five years. During my employment with  
23           Connecticut Water, my responsibilities included preparing tax schedules for regulatory

1 filings and related activities for Connecticut Water and its affiliate Maine Water Company.  
2 In addition, I prepared workpapers and exhibits, and provided testimony in support of  
3 regulatory filings.

4 **Q. What are your duties as Vice President of Taxes?**

5 A. My primary responsibilities include oversight of the Company's income tax functions with  
6 responsibility for tax aspects of acquisitions, planning, risk management, financial  
7 reporting, and compliance. I oversee and manage accounting for income taxes under ASC  
8 740 and ASC 980, and federal and state tax compliance filings for all subsidiaries,  
9 including Aqua PA. I assist in regulatory filings including base rate cases for the regulated  
10 businesses. In addition, I perform tax research, and provide budget and guidance on tax  
11 matters.

12 **Q. What is the purpose of your testimony?**

13 A. First, I will address the Company's income tax expense in compliance with Act 40 of 2016  
14 ("Act 40"), which added Section 1301.1 to the Pennsylvania Public Utility Code. Second,  
15 I will address the Company's proposed amortization of excess accumulated deferred  
16 income tax resulting from the rate change occasioned by the Tax Cuts and Jobs Act of 2017  
17 ("the TCJA"). Third, I will describe how the Company is reflecting the effects of its  
18 continued tax treatment of repairs authorized in its last base rate case at Pennsylvania  
19 Public Utility Commission ("Commission" or "PUC") Docket Nos. R-2018-3003558, R-  
20 2018-3003561, et al. ("2018 Base Rate Case") and any claims related to the repair "Collar"  
21 (described in detail below) due to or due from customers. Next, I will explain the  
22 calculation of the Company's federal and state income tax expense claims in this case.  
23 Lastly, I will describe the Company's request for a Federal Income Tax Rider.

1 **II. ACT 40**

2 **Q. Can you briefly describe how Act 40 changed prior Commission practice related to**  
3 **the practice of making a consolidated tax adjustment?**

4 A. Yes, with the enactment of Act 40, Pennsylvania does not make a consolidated tax  
5 adjustment for ratemaking purposes. Instead, if a differential accrues to a public utility  
6 resulting from the ratemaking methods employed by the Commission prior to the effective  
7 date of Act 40, the differential shall be used as follows:

8 Fifty percent to support reliability or infrastructure related to the  
9 rate-base eligible capital investment as determined by the  
10 commission; and

11 Fifty percent for general corporate purposes.

12 **Q. Have you calculated the “differential” in income taxes referenced in Act 40?**

13 A. No. A calculation was not necessary since Aqua PA was in a net operating loss position,  
14 thus there is no consolidated tax adjustment that is attributable to the Company under the  
15 calculation. Having said that, I would reference the testimony of Company witness Mr.  
16 William C. Packer (AP Statement No. 1), whereby he explains that the Company’s average  
17 investment per year is over \$300 million per year through the fully projected future test  
18 year ending March 31, 2023 (“FPFTY”). Given this fact, the Company is making  
19 significant investments in rate base that is far in excess of any consolidated tax benefits  
20 that would potentially be attributable to the Company under a hypothetical consolidated  
21 tax adjustment. This level of investment is certainly in the spirit of what Act 40 was  
22 intended to facilitate.

1                   **III.     REPAIRS DEDUCTIONS FOR RATEMAKING PURPOSES**

2     **Q.     Could you explain the treatment of repairs in the Company’s 2018 Base Rate Case?**

3     A.     Yes. In the 2018 Base Rate Case, a Joint Petition for Settlement was filed with the  
4           Commission on February 8, 2019 (“Settlement”). The Settlement was subsequently  
5           approved by Opinion and Order entered May 9, 2019 (“2018 Rate Case Order”). Among  
6           other things, the 2018 Rate Case Order approved the terms of the Settlement that  
7           memorialized the Company’s treatment of the repairs deduction, on a flow-through  
8           accounting basis, as a component of the Company’s calculation of income tax expense.  
9           Moreover, a specific level of net repairs deduction was specified (*i.e.*, \$158.9 million for  
10          water and wastewater on a consolidated basis). The components of the target included the  
11          deduction itself projected, reduced by any provision for uncertain tax positions (“FIN 48”)  
12          projected, less Allowance for Funds Used During Construction (“AFUDC”).

13                 The Settlement also contained a provision that should the Company incur a net  
14          repairs deduction that was \$3 million over or under this target (the “Collar”), the Company  
15          would establish a regulatory asset or liability for the income tax expense impacts associated  
16          with the amount over or under the \$158.9 Million, with such regulatory asset or liability to  
17          be incorporated in the Company’s next base rate case for inclusion in future tax expense  
18          claims. Additionally, the Settlement required that, if the Company incurred net repairs  
19          deductions that resulted in the Company reporting a regulatory liability with a net  
20          cumulative income tax impact of \$10 million or larger, then the Company would notify the  
21          Commission, OCA, I&E and OSBA as to a plan to refund the regulatory liability amount  
22          to customers. The Company is proposing that the Collar methodologies established in the  
23          2018 Base Rate Case remain in place with an updated target of \$159 million.

1 **Q. Does the Company have a regulatory asset or liability to address in this case?**

2 A. No. The Company's projected tax repair deduction for tax year 2020 was approximately  
3 \$1.6 million below the bottom range of the Collar at \$155.9 million, or \$154.3 million. For  
4 tax year 2021, the Company is projecting that it will incur a repair deduction that is  
5 approximately \$1.6 million over the top range of the Collar at \$161.9 million, or \$163.5  
6 million. Therefore, the Company will not have any asset or liability that needs to be  
7 addressed.

8 **Q. What are the projected tax repair benefits included in the FPFTY?**

9 A. Referring to Schedule F-2, Line 4, "Tax Repair Deduction" in both AP Exhibits 1-A  
10 (Water) and 1-B (Wastewater), the Company has reflected a consolidated net tax repair  
11 deduction of approximately \$159 million, compared to the \$158.9 million target  
12 established in the 2018 Base Rate Case.

13 **Q. Are there any other differences in the treatment of repairs?**

14 A. Yes. The 2018 Base Rate Case also reflected the remaining unamortized portion of the  
15 Section 481(a) Adjustment ("Catch-Up Adjustment") that was being amortized over a  
16 period of 10 years as authorized in the Company's 2011 rate case Docket No. R-2011-  
17 2267958 ("2011 Base Rate Case"). In the 2018 Base Rate Case, the Company proposed  
18 accelerating this amortization to attempt to align the full amortization of the Catch-Up  
19 Adjustment with its next base rate case test year. In this case, there remains one quarter of  
20 a full year amortization, thus the Company has taken this remaining unamortized benefit  
21 and included 1/3<sup>rd</sup> of it in Schedule F-2, Line 13 of Exhibits 1-A (Water) and 1-B  
22 (Wastewater) as a reduction to income tax expense, consistent with the treatment  
23 authorized in the 2018 Base Rate Case.

1 **Q. Referencing AP Exhibits 1-C through 1-G, Schedule F-2, did you project any repair**  
2 **benefit?**

3 A. No. These are wastewater systems recently acquired by the Company pursuant to Section  
4 1329 of the Public Utility Code, 66 Pa.C.S. § 1329. The United States Internal Revenue  
5 Service (“IRS”) regulations regarding tangible property have provisions that dictate repairs  
6 expenses are those attributed to the taxpayer’s use of the assets. Given that the Company  
7 has only owned and operated these systems for approximately 1 year (New Garden) to 3  
8 years (Limerick), and that the investments during this time period are more restorative in  
9 nature, the investments being made by the Company is not expected to yield any repair  
10 benefit. As such these investments will be treated as tax assets instead of tax repairs.

11 **IV. THE COMPANY’S CALCULATION OF FEDERAL AND STATE INCOME**  
12 **TAXES**

13 **Q. Which schedules contain the computations of the income tax expense element of the**  
14 **Company’s cost of service?**

15 A. The income tax computation is shown on Schedules F-2 of AP Exhibit Nos. 1-A (Water)  
16 and 1-B (Wastewater), as well as AP Exhibits 1-C through 1-G (representing individual  
17 wastewater operations). All schedules in these exhibits are titled “Computation of Federal  
18 and State Income Taxes Under Present and Proposed Rates”.

19 **Q. Please explain the basis for the state and federal income tax computations set forth**  
20 **on Schedule F-2 of AP Exhibit Nos. 1-A through 1-G.**

21 A. As a threshold matter, Schedule F-2 of AP Exhibit Nos. 1-A through 1-G each contain four  
22 income tax expense computations: (1) one for the historic test year ended March 31, 2021  
23 (“HTY”) at base rates then in effect (which are the same as current base rates); (2) one for  
24 the future test year ending March 31, 2022 (“FTY”) at current base rates; (3) one for the

1 FPPTY at current base rates; and (4) one for the FPPTY at the rates proposed by the  
2 Company. All four of the computations employ the same methodology. However, since  
3 the Company's claim in this case is based upon the level of income tax expense applicable  
4 to the FPPTY at proposed rates, I will describe that computation (columns (9) and (10)) of  
5 each schedule. Because these computations are similar across Schedule F-2 in each of AP  
6 Exhibit Nos. 1-A through 1-G, I will focus principally on Schedule F-2 of AP Exhibit No.  
7 1-A.

8 The calculation of total income tax expense consists of two parts. First, the  
9 schedule shows the computation of current state and federal income tax expense – that is,  
10 the income tax that would be paid with respect to operations during the year assuming the  
11 projected levels of income and expense are achieved. The second part is the computation  
12 of deferred federal and state tax expense. The two components, when combined, equal the  
13 Company's total income tax expense to be recovered in proposed base rates.

14 **Q. How is the Company's current income tax expense calculated?**

15 A. The calculation of current income tax expense begins with pre-tax income (operating  
16 income before income taxes and before interest expense). There are three adjustments  
17 made to this number that are the same for both federal and state income tax purposes. These  
18 are interest expense, tax repairs and book depreciation. Interest expense (line 2) is not  
19 reflected in pre-tax income but is deductible for both federal and state income tax purposes.  
20 Consequently, an adjustment must be made. The tax repair deduction (line 4) is the  
21 deduction that the Company projects it will claim during the test year for both federal and  
22 state income tax purposes net of the FIN 48 provision. The nature of this deduction and  
23 the FIN 48 provision are described earlier in my testimony. Book depreciation is added

1 back to both the federal and state computation (line 5). Tax depreciation is then deducted  
2 for both state and federal income tax purposes (line 6).

3 **Q. What depreciable lives and depreciation methods does the Company use for federal**  
4 **income tax purposes?**

5 A. The Company uses the following depreciable lives and depreciation methods for tax  
6 purposes:

7 Utility Property Vintages

1969 and prior	50 years <sup>(1)</sup>	Straight-Line
1970	50 years <sup>(1)</sup>	Double Declining Balance Switching to Straight-Line
1971 to 1980	40 years <sup>(2)</sup>	Double Declining Balance Switching to Straight-Line
1981 to 1986	15 years	Accelerated Cost Recovery System (ACRS)
1987 to June, 1996	20 years	Modified Accelerated Cost Recovery System (MACRS)
June 1996 and subsequent	25 years	Straight-Line

Tax Exempt Financed Property	50 years	Straight-Line
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Buildings

1970 and prior	45 years <sup>(1)</sup>	Straight-Line
1971 to 1980	45 years <sup>(2)</sup>	Straight-Line
1981 to 1984 (portion)	15 years	ACRS
1984 (portion) to 1985	18 years	ACRS
1986	19 years	ACRS

Buildings

1987 and subsequent	31 1/2 years	Straight-Line
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Office Equipment

1970 and prior	10 years <sup>(1)</sup>	Straight-Line
1971 to 1980	8 years <sup>(2)</sup>	Double Declining Balance
1981 to 1986	5 years	ACRS
1987 and subsequent	7 years	MACRS
<u>Qualified Technological Equipment</u>		
1987 and subsequent	5 years	MACRS

<sup>(1)</sup> Guideline Lives

<sup>(2)</sup> Lives under Asset Depreciation Range (ADR)

**Q. Why do the federal and state tax depreciation amounts differ from one another?**

A. The federal tax depreciation amounts are approximately \$87.9 million for water and \$19.2 million for wastewater, while the comparable state amounts are approximately \$98.3 million for water and \$19.2 million for wastewater. The higher state income tax amounts are the result of deducting in the current year a portion of prior years' bonus depreciation that was not deductible for Pennsylvania income tax purposes in the year that the property was placed in service.

**Q. Are there any other adjustments?**

A. Just one. Since state income taxes are deductible for federal purposes, once the current state income tax liability is computed (column (10), line 11) by multiplying state taxable income (column (10), line 7) by the state income tax rate (column (10), line 8), that amount is deducted (column (9), line 3) to derive federal taxable income. Federal taxable income is then multiplied by the new, 21% federal income tax rate.

**Q. What is the total current income tax expense claimed by the Company?**

A. Total current federal income tax expense for the FPFTY at proposed rates is projected to be \$25,270,306 federal for water and \$3,089,034 for wastewater, while total current state

1 income tax expense for the FPFTY is projected to be \$12,214,337 for water and \$1,630,351  
2 for wastewater.

3 **Q. Please explain the deferred income tax component of the Company's total income tax**  
4 **expense.**

5 A. Certainly. Pennsylvania regulatory policy is, generally, to charge customers a level of tax  
6 expense equal to the taxes the utility expects to pay currently. This is referred to as "flow  
7 through" tax accounting. However, there are exceptions to this policy—particularly as it  
8 relates to the tax benefits of accelerated depreciation, which is subject to the tax  
9 normalization rules. Further, in the Company's case, because of the Settlement in the 2018  
10 Base Rate Case, there is also an exception for the Section 481(a) adjustment relating to the  
11 tax repairs change in accounting method, which I referred to earlier in this testimony. As  
12 to the Section 481(a) adjustment, the Company agreed to amortize the tax effect of that  
13 deduction in the manner set forth in the Settlement of the 2018 Base Rate Case, as I  
14 explained previously. As to accelerated depreciation related to property subject to the  
15 normalization requirement, the Company records deferred taxes.

16 The provision of deferred income taxes is the accounting and ratemaking  
17 mechanism that implements the normalization requirement the Internal Revenue Code  
18 imposes as a condition for using the liberalized depreciation methodologies allowed for  
19 income tax purposes. The normalization requirement does not permit the tax benefit of tax  
20 depreciation in excess of book depreciation to be flowed-through to customers as a tax  
21 deduction in the year(s) those deductions occur. Instead, the tax effects of those amounts  
22 are recorded as deferred taxes. These taxes are deferred, not eliminated; the taxes that are  
23 deferred will be paid to the government later in the life of the depreciable asset when the

1 relationship between book and tax depreciation reverses.

2 To recognize the fact that deferred taxes are a source of capital for the Company  
3 that does not have an attendant capital cost, accumulated deferred income taxes (“ADIT”)  
4 are deducted from rate base for ratemaking purposes. The Company’s deferred tax expense  
5 in this case also includes the flow-through of excess ADIT, and the amortization of some  
6 older vintage investment tax credits, as I will explain hereafter.

7 **Q. Please explain the provision of deferred income tax expense for accelerated**  
8 **depreciation.**

9 A. As I explained previously, deferred income tax expense arises from the normalization  
10 requirement imposed by the Internal Revenue Code and reflects the difference between tax  
11 depreciation and book depreciation for post-1969 utility property. Tax depreciation is  
12 calculated by multiplying the tax basis of assets by the applicable depreciation rates used  
13 for income tax purposes. The applicable depreciation rates are a function of the depreciable  
14 lives and depreciation methods that I previously described for each relevant vintage of the  
15 Company’s property. Because depreciable lives and methods differ based on the year plant  
16 was placed in service, the difference between tax and book depreciation and the associated  
17 tax effect differs depending on the vintage year of the property involved.

18 For assets acquired prior to 1970, there are no deferred taxes because this property  
19 was not subject to a normalization requirement. In total, the difference between tax  
20 depreciation and book depreciation when multiplied by the new, 21% federal income tax  
21 rate is (\$1,202,057) for water and \$1,525,642 for wastewater (AP Exhibit No. 1-A and 1-  
22 B, Schedule F-2, column (9), line 19). I further note that the calculation of this amount for  
23 each wastewater operation is similarly reflected in Schedule F-2, column (9), line 19 of

1 Exhibit Nos. 1-C through 1-G.

2 **Q. Does the Company record deferred state tax income expense related to its use of**  
3 **accelerated depreciation?**

4 A. No, it does not. The federal tax normalization rules only apply to the federal income tax.

5 **Q. Please explain the effect of the Section 481(a) adjustment on the Company's deferred**  
6 **income tax expense.**

7 A. A ten-year amortization of the Section 481(a) adjustment was provided for in the terms of  
8 the settlement of the 2018 Base Rate Case, net of the FIN 48 provision amount. In this case,  
9 there remains one quarter of a full year amortization, thus the Company has taken this  
10 remaining unamortized benefit and included 1/3<sup>rd</sup> of it in Schedule F-2, Line 13 of Exhibits  
11 1-A (Water) and 1-B (Wastewater) as a reduction in the calculation of deferred income tax  
12 expense. This is consistent with the treatment authorized in the 2018 Base Rate Case. This  
13 reduction is \$658,739 for water and \$4,584 for wastewater as reflected in column (9), on  
14 line 15 of Schedule F-2 for AP Exhibit Nos. 1-A and 1-B. The amortization of the state  
15 income tax effect of the Section 481(a) adjustment (column (10), line 13) is greater than  
16 the corresponding amortization of the federal income tax effect because of the state's  
17 limitation on the amount of bonus depreciation that could be deducted in prior years. The  
18 limitation on bonus depreciation created a higher tax basis for state purposes to which the  
19 Section 481(a) calculation was applied.

20 **Q. Please explain the impact of excess ADIT on the Company's deferred income tax**  
21 **expense.**

22 A. The Company's deferred tax expense is reduced by the flow-back to customers of a portion  
23 of the excess ADIT resulting from the reduction in federal tax rates from 46% to 34% and

1 35% that occurred in 1986 and 1993, respectively (column (9), line 20). The adjustment  
2 of \$57,648 for water and \$0 for wastewater continues the flow-back using the same method  
3 and amortization period(s) proposed and accepted in the Company's prior rate filings.  
4 Deferred tax expense is also reduced by the flow-back of the protected ADIT resulting  
5 from the TCJA tax rate reduction. This flow-back is computed using the ARAM and is  
6 \$3,495,629 for water and \$6,303 for wastewater, as shown in column (9), on line 21, of  
7 Schedule F-2 of AP Exhibit Nos. 1-A and 1-B. The amounts of (\$242,749) for water and  
8 \$551 for wastewater (column (9), line 22), that flow back the unprotected ADIT increase  
9 deferred tax expense (the TCJA change in the tax rate gave rise to a deferred tax shortfall).  
10 This amount is being amortized over ten years.

11 **Q. Please explain the impact of investment tax credit amortization on the Company's**  
12 **deferred income tax expense.**

13 A. The tax effect of investment tax credits is flowed back to customers over the book lives of  
14 the assets that generated the credits. The appropriate amounts of \$253,413 for water and  
15 \$0 for wastewater are reflected in column (9), on line 25, of Schedule F-2 for each division.

16 **Q. What is the Company's total projected deferred income tax expense?**

17 A. The total amount of these various components constitutes the Company's anticipated  
18 federal deferred tax expense of (\$5,171,324) for water and \$1,139,605 for wastewater for  
19 the FPPTY at proposed rates as set forth on Schedule F-2 of Exhibit Nos. 1-A and 1-B.  
20 The corresponding state amounts are (\$437,582) for water and (\$3,285) for wastewater.

21 **Q. What is the Company's total projected income tax expense?**

22 A. The Company projects total federal income tax expense of \$19,845,569 for water and  
23 \$4,604,338 for wastewater, and state income tax expense of \$11,776,755 for water and

1 \$1,627,066 for wastewater. Notably, the consolidated water and wastewater effective  
2 income tax rate is 13.50% in this case, which is meaningfully lower than the effective  
3 statutory income tax rates for federal and state at 28.89%. This difference is a direct result  
4 of the repair benefits continuing to be passed through to customers.

5 **Q. How is the ADIT set forth in the Company's rate base calculation on Schedule G-1 &**  
6 **G-8 of Exhibits 1-A through 1-G derived?**

7 A. The ADIT for the rate base calculation, as shown on Schedule G-1 of both AP Exhibit No.  
8 1-A through AP Exhibit No. 1-G, is calculated by including the normalized deferred taxes  
9 and the unamortized excess ADIT related to the 46% to 34%/35% tax rate reduction  
10 resulting from the tax law changes made in 1986 and 1993 at the end of the FPPTY. The  
11 ADIT also includes the excess ADIT resulting from the TCJA rate reduction, although  
12 classified as a regulatory liability on the Company's balance sheet and are also considered  
13 ADIT for purposes of the rate base calculation. The total ADIT set forth in the Company's  
14 rate base calculation on Schedule G-1 of each of AP Exhibit Nos. 1-A through 1-G is a  
15 total of \$392,525,121 for water and \$9,356,312 for wastewater.

16 **V. THE COMPANY'S REQUEST FOR A FEDERAL TAX ADJUSTMENT CLAUSE**  
17 **RIDER**

18 **Q. Is the Company proposing an adjustment clause which will adjust base rates for**  
19 **changes in federal corporate income tax rates, as a part of this proceeding?**

20 A. Yes. The Company is proposing to add the revenue requirement for the incremental impact  
21 of a change in the federal corporate income tax rate to its water and wastewater tariffs,  
22 named the Federal Tax Adjustment Surcharge ("FTAS"). The FTAS is designed to provide  
23 for adjustments to base rates reflecting the effects of future increases or decreases in the  
24 federal corporate income tax rate. The proposed FTAS is included as a part of the

1 Company's filing in the Proposed tariff.

2 **Q. Why is the Company proposing the FTAS?**

3 A. The Company is proposing this rider for several reasons. As an initial matter, significant  
4 changes in the federal corporate income tax rate can drastically impact the Company's  
5 revenue requirement. Although the Commission adopted a negative surcharge method to  
6 pass back the effects of the TCJA, that process took time to implement. Relatedly, any  
7 time delay in adjusting rates in this manner can result in either significant refunds or  
8 retroactive collections after the effective date of the tax rate change. Moreover, one could  
9 anticipate that the corporate federal income tax rate may be increased from 21% to 28%,  
10 among other corporate income tax changes, based upon numerous statements made by the  
11 existing federal administration.

12 **Q. What other specific evidence are you aware of that shows the federal administration  
13 intends to increase the federal corporate income tax rate to 28%?**

14 A. First, the White House issued a statement on March 31, 2021. The release, titled "Fact  
15 Sheet: The American Jobs Plan", outlines the proposals for significant government  
16 spending to invest and rebuild the U.S. infrastructure. As part of this plan, the White House  
17 has proposed an increase in the corporate tax rate from 21% to 28% to help pay for the  
18 additional government spending. The corporate tax rate increase is one of several proposals  
19 intended to roll back some tax reductions enacted only a few years ago with the passage of  
20 the TCJA, including the reduction in the corporate tax rate from 35% to the current rate of  
21 21%.

1 **Q. What would the effect of an increase in the federal corporate income tax rate from**  
2 **21% to 28% be on the Company's revenue requirement?**

3 A. I have estimated the impact for all of Aqua PA water and wastewater operations to be an  
4 increase in revenue requirement of approximately \$14M. Specifically, total income tax  
5 expense, would increase from the as filed amount in Schedules F-2 of Exhibits 1-A through  
6 1-G of \$37.9M at 21%, to approximately \$52.0M. This estimated impact does not account  
7 for the requisite adjustment to the 2017 excess deferred taxes that are now being flowed-  
8 back to customer through the ARAM, which requires more extensive analysis and  
9 projections to adjust for a rate change. Nonetheless, this represents a significant change to  
10 Aqua PA's cost of service that certainly justifies an automatic adjustment clause of this  
11 nature. Absent this rider, Aqua PA may be compelled to file another rate case sooner than  
12 originally planned at significant cost and time to all parties.

13 **Q. Please explain the calculation of the reduction of the flow back of excess deferred**  
14 **taxes that would result from an increase in the federal corporate income tax rate from**  
15 **21% to 28%.**

16 A. When there is a change in the federal corporate income tax rate, the IRS normalization  
17 rules require that the Company remeasure the ADIT reserve as of the date of enactment  
18 which results in an excess deferred tax reserve (if the rate decreases) or a deficient deferred  
19 tax reserve (if the rate increases).<sup>1</sup> After the passage of the TCJA, the Company recorded  
20 a regulatory liability to reflect the change in the excess deferred tax reserve for the tax rate

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<sup>1</sup> Section 13001(d)(3)(A) of the TCJA defines an "excess tax reserve" to mean the excess of the reserve for deferred taxes (as described in § 168(i)(9)(A)(ii)) as of the day before the corporate rate reductions provided in the amendments made by section 13001(a) take effect, over the amount which would be the balance in such reserve if the amount of such reserve were determined by assuming that the corporate tax rate reductions provided in the TCJA were in effect for all prior periods.

1 increase that went into effect January 1, 2018. The amortization of this excess deferred tax  
2 reserve to return the amounts previously collected from customers that is no longer due to  
3 the IRS is reflected in the flow back of excess deferred taxes on lines 20 through 22 of  
4 Schedules F-2, Exhibits 1-A through 1-G. When there is subsequent change to the federal  
5 corporate income tax rate, another remeasurement occurs and the amount of the deferred  
6 income tax reserve is once again adjusted to reflect the new tax rate.

7 In the case of a federal tax rate increase from 21% to 28%, this would result in a  
8 reduction to the previous balance of the excess deferred tax reserve which then causes a  
9 reduction in the amount of the flow back excess deferred taxes as shown in Schedule F-2  
10 of Exhibits 1-A through 1-G and increase the impact I estimated above at \$14M. As I said  
11 previously, the recalculation of the impact to the excess deferred flow-back is extensive  
12 and not quantified at this time.

13 **Q. Please explain the difficulty of implementing federal corporate income tax rate**  
14 **changes under the current system of Pennsylvania rate regulation.**

15 A. The difficulty of implementing federal corporate tax rate changes is illustrated by the  
16 implementation of the tax rate reductions created by the TCJA. For companies like Aqua  
17 PA that had planned base rate cases in 2018, the lower tax rate was reflected in those  
18 decisions prospectively in early 2019, along with refunds for 2018. The Commission set  
19 temporary rates for other companies and implemented surcredits on July 1, 2018, to begin  
20 the flow through of the tax rate decrease and required those companies to record regulatory  
21 liabilities for the first half of 2018. As noted previously, this process delayed receipt of the  
22 effects of the tax rate change and required changes to rates previously charged for service.  
23 It is more appropriate to adjust rates as expeditiously as possible to reflect tax rate changes.

1 The FTAS is designed to accomplish that.

2 **Q. Is there any precedent under Pennsylvania rate regulation for changing base rates**  
3 **for tax rate changes in an adjustment mechanism?**

4 A. Yes. Major Pennsylvania utility companies have had a State Tax Adjustment Surcharge  
5 (“STAS”) in place for many years. This mechanism provides for adjustments to base rates  
6 for changes in state taxes and, more specifically, for changes in the tax rate under the  
7 Pennsylvania Corporate Net Income Tax.

8 **Q. Why has the Company elected to propose the FTAS as a part of this case?**

9 A. As explained above, the federal corporate tax rate change being contemplated by the  
10 current federal administration would significantly impact the Company’s costs and cause  
11 the Company to earn less than a reasonable return in the FPFTY if the tax rate change is  
12 adopted and not reflected in the Company’s base rates. Such a situation could occur in the  
13 FTY or FPFTY, after the record in this case is closed or when the rates established in this  
14 proceeding are in effect. Adopting the FTAS is an appropriate solution to this potential  
15 issue, and it would provide symmetrical treatment to the Company to the treatment of the  
16 tax rate reduction that occurred under the TCJA.

17 **VI. CONCLUSION**

18 **Q. Does this conclude your direct testimony?**

19 A. Yes, however I reserve the right to supplement my testimony as needing during the  
20 progression of this case.

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**DOCKET NOS. R-2021-3027385, R-2021-3027386**

**AQUA PENNSYLVANIA, INC.  
AQUA PENNSYLVANIA WASTEWATER, INC.**

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**PREPARED DIRECT TESTIMONY OF  
TODD M. DUERR P.E., L.O.**

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**Topics Addressed:**

**Wastewater System Capital Investment**

DATE SERVED: August 20, 2021  
DATE ADMITTED: \_\_\_\_\_

**Aqua Statement No. 9**

1                                   **I.       INTRODUCTION AND SCOPE OF TESTIMONY**

2   **Q.     Please state your name and business address.**

3   A.     My name is Todd M. Duerr. My business address is 762 W. Lancaster Avenue, Bryn  
4         Mawr, Pennsylvania 19010.

5   **Q.     By whom are you employed and in what capacity?**

6   A.     I am employed by Aqua Pennsylvania, Inc., (“Aqua PA”, “AP”, or the “Company”) as Vice  
7         President, Production.

8   **Q.     Please provide a brief description of your education and work experience.**

9   A.     I have a Bachelor of Arts Degree in Mathematics from Bloomsburg University (1986), PA;  
10        a Bachelor of Science Degree (B.S.) in Civil Engineering Technology from Temple  
11        University, PA (1988) and a Master’s Degree in Water Resources & Environmental  
12        Engineering from Villanova University (1995). I have worked in various engineering,  
13        operations, and business leadership roles and have over 31 years of experience in the water  
14        and wastewater utility industry including operating and managing the 20 million gallons  
15        per day (“MGD”) City of Scranton, PA wastewater treatment plant, which includes a  
16        Combined Sewer Overflow collection system with multiple Significant Industrial Users. I  
17        have worked at AP since 2020, with responsibility for the production of safe drinking water  
18        and treatment of wastewater that is returned to the environment. I am a Registered  
19        Professional Engineer in Pennsylvania and a Licensed Water and Wastewater Operator in  
20        Pennsylvania.

21   **Q.     Have you previously testified before the Pennsylvania Public Utility Commission**  
22         **(“PUC” or the “Commission”)?**

23   A.     No. This is my first time testifying in a proceeding before a Commission.

1 **Q. What is the purpose of your testimony?**

2 A. The purpose of my testimony is to provide an overview of the reasons why Aqua  
3 Pennsylvania, Wastewater Inc. (“APW”) (collectively “APW” and AP are referred to as  
4 the “Company”) continues to need to upgrade and improve its wastewater infrastructure. I  
5 will provide some examples and describe this investment in a number of our wastewater  
6 systems.

7 **Q. Are you sponsoring any exhibits?**

8 A. No.

9 **Q. Please describe APW and its wastewater systems.**

10 A. APW is engaged in the business of collecting, treating, transporting, and disposing of  
11 wastewater for the public. APW serves approximately 40,000 customers in Adams, Bucks,  
12 Carbon, Chester, Clarion, Clearfield, Delaware, Lackawanna, Luzerne, Monroe,  
13 Montgomery, Pike, Schuylkill, Venango, and Wyoming Counties. Throughout the  
14 Commonwealth of Pennsylvania APW operates 39 wastewater treatment plants  
15 (“WWTP”). APW has a team of wastewater managers and operators that maintain and  
16 safely operate these wastewater systems. They are supported by a team of experts  
17 throughout the Company’s footprint. Throughout the entire Aqua family footprint, APW  
18 along with its subsidiaries discharge approximately 34 million gallons of treated  
19 wastewater to the environment daily, oversee 2,500 miles of wastewater pipe, 800 lift  
20 stations and collect 3,800 compliance samples each month. Our wastewater team has a  
21 deep bench of experience including having run the Combined Sewer Overflow (“CSO”)  
22 program and Long Term Control Plan for the City of Wilmington Delaware, the  
23 Philadelphia Long Term CSO Program and Wet Weather Programs for the City of

1 Philadelphia as well as industrial pretreatment and combined sewer system and  
2 management of consent orders.

3 Many of APW's systems have required significant capital from the time of  
4 acquisition to bring them into compliance with Pennsylvania Department of Environmental  
5 Protection ("PA DEP") regulations and to return the infrastructure to a reliable state of  
6 condition.

## 7 II. WASTEWATER SYSTEM CAPITAL INVESTMENT

8 **Q. Does the Company have a capital investment planning process?**

9 A. Yes, the capital investment planning process involves a detailed assessment of each  
10 system's physical condition, compliance history and status, regulatory permit water quality  
11 requirements and projected flow requirements to arrive at a plan for capital improvements  
12 needed to maintain, improve, and or meet the needs of the system. The process results in  
13 a long-term capital plan with emphasis on the next 3 to 5 years, where planning and other  
14 engineering assessments have identified the specific and prioritized needs.

15 **Q. Can you describe some key drivers or determinations of why capital is invested?**

16 A. While there are many factors, it is important to note that each wastewater plant, system,  
17 and situation must be evaluated in real time and prioritized against other competing projects  
18 and priorities, which is why we use the capital investment planning process. While the  
19 planning process identifies and prioritizes known system investment needs, sometimes a  
20 failure occurs on an asset or group of assets and we must make unplanned investments to  
21 ensure continued operations.

22 Examples of key drivers are: deteriorating asset condition from normal wear and  
23 tear/life cycle end; correction of original design issues that cause operational reliability or

1 compliance reliability; modifying asset size or function to improve operational efficiency  
2 or reduce long term operating costs; adding resiliency functions to plant (*e.g.*, an  
3 emergency generator for power outage situations), changes in permit discharge  
4 requirements which often are imposed when the permit is renewed; replacing or modifying  
5 assets to address worker safety needs; adding technology to monitor and control plant  
6 processes and ensure real-time operator response if something is out of standard (*e.g.*, high  
7 level condition in the middle of a rainstorm at a remote lift station).

8 In addition, the systems are subject to many environmental and wastewater content  
9 conditions. Examples include grit from roads; grease from domestic and commercial  
10 discharges; rags and debris that can clog pipes, pumps, and affect plant process reliability;  
11 high flows during wet weather events; and wastewater chemistry that has a tendency to  
12 corrode and deteriorate certain assets/material at an accelerated rate.

13 **Q. How does the capital investment planning process affect the Company's claim for**  
14 **wastewater utility plant?**

15 A. The Company relied upon data from its capital investment planning process to support the  
16 plant claims for the FTY and FPFTY. Thus, those claims reflect capital expenditures  
17 required to address the physical condition of facilities, to maintain or achieve required  
18 regulatory compliance, employee safety, operational reliability, and to accommodate  
19 known projected capacity needs.

20 **Q. Please provide a few examples of major projects that are included in the Company's**  
21 **claimed utility plant in service through the FPFTY.**

22 A. Penn Township WWTP, Chester County: APW is investing in this facility to address  
23 operational reliability challenges and renew assets at the end of their useful life. The

1 facility has two distinct and separate treatment trains. This means that the incoming  
2 wastewater is split between two treatment “trains” that treat waste using different  
3 processes, which is a non-traditional situation and complex for operators to control. The  
4 result is difficulty in maintaining a common treatment standard since the two trains operate  
5 very differently. The operational control situation is exacerbated during wet weather flows  
6 that cause the biological solids to wash out of the system. This can result in permit  
7 noncompliance, environmental impacts, slower recovery of operational norms, and causes  
8 other operational difficulties such as clogged filters. The Company’s investment includes  
9 the construction of two final clarifier tanks where process solids can be efficiently  
10 controlled under all flow conditions, and introduces the ability to sustain compliant  
11 operations should a portion of either treatment train or a clarifier have to be removed from  
12 service for maintenance. The current sludge holding tank volume is too small for a facility  
13 of this size. The new sludge holding tank will allow for efficient handling of waste solids  
14 and reduce hauling frequency with resultant cost savings. Other improvements to the  
15 facility address end of useful life asset condition, operational reliability, and employee  
16 safety. Examples include replacement of electrical power systems, replacing/improving  
17 Supervisory Control and Data Acquisition (“SCADA”) and controls, replacement of the  
18 headworks screen that removes rags and debris, and renovation or replacement of the  
19 operations building.

20 Little Washington Wastewater Treatment Plant, Chester County: This facility  
21 requires the construction of a new headworks facility. The headworks is where the  
22 untreated wastewater flows before entering the process tanks. The new headworks consists  
23 of a pump station and automated screen which removes rags, flushable wipes, and other

1 debris prior to entering the treatment process. Under current state, the grinder has issues  
2 processing the amount of debris entering the facility and at times, the untreated wastewater  
3 flows around the grinder. Further, to the extent the grinder can macerate the debris, the  
4 finer debris is retained in the system and congeals, making the grinding process ineffective.  
5 The new headworks will permanently remove the debris. Once that project is done, APW  
6 will begin renewing other components of the facility that have reached the end of their  
7 useful life. Examples include the biological process air supply system and operational  
8 technology control systems.

9 Twin Hills Wastewater Treatment Plant, Chester County: Subsequent to recent  
10 upgrades to this facility for electrical code compliance and process control system  
11 replacement, the current project will install a new equalization tank to replace an  
12 undersized and deteriorated one, and install an influent screen to remove rags and debris  
13 similar to and for the reasons discussed above for the Little Washington Wastewater  
14 Treatment Plant.

15 New Garden Township, Chester County: The New Garden Township system  
16 consists of two distinct and distant treatment facilities (East End and South End), both of  
17 which treat wastewater using lagoons and final treated water sprayed onto designated lands.  
18 This is known as spray irrigation or land application of treated effluent. Prior to acquisition,  
19 the South End facility lost spray field capacity due to soil conditions and other  
20 environmental and horticultural factors. The result is the amount of water entering the  
21 facility is higher than can be applied to the land and the excess water has to be trucked to  
22 other locations. APW is investing capital to optimize the amount of water that can sprayed  
23 on available suitable lands. One project is installing controls and related components to

1 automate where and when treated water is sprayed. Another project will transfer water  
2 between the two facilities (South End to East End) where more spray field capacity exists,  
3 thus making use of all available resources and reducing the current level of trucked water.  
4 The end result is optimized spray fields and elimination of over-application.

5 Media Wastewater Treatment Plant, Delaware County: This project is a multi-year,  
6 two phase approach to complete replacement of the original WWTP, which is around 100  
7 years old. Two subsequent major upgrades occurred (pre-APW ownership in 1967 and  
8 1986). The Company is currently in Phase 2 of this project. It includes replacement of  
9 existing assets and installation of new assets. Examples of the work include a new  
10 headworks screen, grit removal system, sludge and scum collector systems in the primary  
11 clarifiers, structural upgrades of tanks, process changes to remove nutrients from the  
12 effluent, a new chemical feed system for nutrient removal support, and upgrades to  
13 electrical power system, SCADA, and controls.

14 Cheltenham Township Wastewater System, Montgomery County: In December  
15 2019, Aqua purchased Cheltenham Township's wastewater collection system. Wastewater  
16 is conveyed to the Philadelphia Water Department ("PWD") for treatment. The collection  
17 system is aged and is impacted in wet weather from inflow and infiltration, experiencing  
18 conveyance capacity issues in which flows periodically exceed the flow limits established  
19 in the Agreement with the PWD. In 2006 the PA DEP imposed a Corrective Action Plan  
20 ("CAP") on Cheltenham Township to require them to address the inflow and infiltration.  
21 The Township struggled to meet the mandates in the CAP. Upon acquiring the system  
22 APW began implementing its own program to abate the sewage capacity and compliance  
23 issues. APW's capital investment plan includes a multi-faceted approach involving

1 inspection, flow measurement in sub-basins, and computer hydraulic modeling of the  
2 system. APW commenced a program to televise the entire collection system to identify  
3 pipe and manhole defects. We are using the industry standard inspection rating process  
4 authored by the National Association of Sewer Service Companies Pipeline Assessment  
5 Certification Program (“NASSCO PACP”). Using the results from this work, segments of  
6 pipes and manholes are being rehabilitated and replaced.

7 APW recently developed a computer based hydraulic model of the main interceptor  
8 sewers that convey flow to PWD. These interceptor sewers have experienced numerous  
9 capacity issues and sewer overflows since the 2000s. The model is a critical tool that  
10 provides key insight to the flow conditions and hydraulic performance of the system. The  
11 model is being used to determine the most appropriate and cost-effective option for  
12 upgrading the existing interceptors and to solve the hydraulic constraint issues. The  
13 interceptor sewers will be rehabilitated and/or replaced in future years as part of the overall  
14 capital program. It is through the execution of the projects within the capital program that  
15 Aqua is confident they will be able to eliminate the long-standing CAP with PA DEP.

16 Northeast PA (NEPA) Wastewater Treatment facilities: APW owns 13 wastewater  
17 treatment plants and 14 wastewater collection systems in the Northeast Pennsylvania  
18 region. Many of these systems have received ongoing investment over the past few rate  
19 cases. APW’s capital planning process is pragmatic about identifying and prioritizing its  
20 capital expenditures across its asset portfolio. APW will continue investments in a  
21 prioritized manner while also addressing the continuum of asset deterioration caused by  
22 the factors discussed earlier in my testimony. Many of the NEPA facilities are reaching  
23 the end of their useful life. It is necessary to invest capital into facilities whose condition,

1 if left un-touched, would result in unsustainable and unreliable operations and non-  
2 compliance with environmental permits. A few examples that are included in the current  
3 rate case include:

4 The White Haven wastewater treatment plant is undergoing two  
5 rehabilitation projects. Train A rehabilitation includes a new steel coating system  
6 and replacement of all mechanical parts and equipment. This work will extend the  
7 life of this treatment train. The lime silo rehabilitation project will replace all  
8 mechanical equipment to deliver a more consistent chemical feed and improve the  
9 treatment process.

10 The Lake Harmony wastewater treatment plant is undergoing a multiphase  
11 rehabilitation. The current phase includes the installation of a new effluent tertiary  
12 filter to ensure the effluent meets required receiving stream quality. It will replace  
13 an outdated technology known as a traveling bridge filter. Other improvements  
14 include hydraulic upgrades and the installation of an additional ultraviolet  
15 disinfection unit for treatment redundancy.

16 The Thornhurst wastewater treatment plant is undergoing a major facility  
17 upgrade. This project will construct a new operations building to house controls,  
18 laboratory, electrical equipment, and chemical feed, replacement of existing  
19 blowers and controls for the equalization and aeration tanks. A new headworks  
20 building is being added to house a new screening system similar to that discussed  
21 above in my testimony. Other work includes replacement of the chlorine  
22 disinfection system with an ultraviolet disinfection unit to meet stringent residual

1 chlorine permit limits, a new effluent tank, utility water supply, and post aeration  
2 system.

3 With respect to the NEPA collection systems, APW is completing  
4 rehabilitation projects across our service area. Several systems are undergoing  
5 manhole rehabilitation, making repairs that will reduce groundwater infiltration and  
6 restore structural stability. There are numerous pipe rehabilitation projects to  
7 reduce inflow and infiltration and restore structural integrity of the pipe. These  
8 rehabilitation projects will restore capacity lost in the treatment plants, limit  
9 potential sanitary sewer overflows, and avoid the challenges of keeping a  
10 wastewater plant operating when overwhelmed by wet weather flow. Further, these  
11 projects prevent cave-ins of streets due to structural failures of manholes or pipe.

12 Treasure Lake Wastewater System, Clearfield County: APW has made significant  
13 investments in the Treasure Lake community wastewater treatment system. Of significant  
14 note is the consolidation of two wastewater treatment plants into one that replaced poor  
15 condition facilities and ensured long-term efficiency and viability of wastewater services  
16 for the community. APW recently completed the replacement of the sixth and final lift  
17 station in the system. All lift stations now have flow and energy metering and remote  
18 monitoring and reliable emergency power. Continued upgrades to the system are needed  
19 and will continue. Work planned includes the reduction of inflow and infiltration in the  
20 collection system by replacing manholes and failed pipes. The Company has a forward  
21 looking forecast of sewer main repairs and works annually to coordinate them with water  
22 main replacements for economies of scale, which provides cost benefits to the customers  
23 and reduces disturbing roadways twice in a short period of time. Due to recent permit

1 conditions that limited the amount of copper that can be discharged to the high-value  
2 receiving waters, APW was required to undertake pilot studies to determine a feasible  
3 means to reduce copper to extremely low levels. The Company has been able to achieve  
4 the required reduction and is now preparing to submit plans for final permits.

5 **Q. Have there been any routine system improvements that are included in the capital**  
6 **investment figures but are not part of a major project?**

7 A. Yes, the Company completed a significant amount of collection system improvement work  
8 throughout the service territory under the distribution system improvement charge  
9 (“DSIC”) program including sewer main replacement, sewer main lining, manhole repair,  
10 and pump station improvements. These projects have helped increase the efficiency of the  
11 systems, improved environmental compliance, and have reduced infiltration and inflow  
12 into the wastewater treatment plant.

### 13 III. CONCLUSION

14 **Q. Does this conclude your testimony?**

15 A. Yes, however, I reserve the right to supplement my testimony as additional issues and  
16 facts arise during the course of this proceeding.

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**DOCKET NOS. R-2021-3027385, R-2021-3027386**

**AQUA PENNSYLVANIA, INC.  
AQUA PENNSYLVANIA WASTEWATER, INC.**

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**PREPARED DIRECT TESTIMONY OF  
RITA F. BLACK  
DIRECTOR, COMMUNITY ASSISTANCE PROGRAMS**

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DATE SERVED: August 20, 2021  
DATE ADMITTED: \_\_\_\_\_

**Aqua Statement No. 10**

1 **Q. Please state your name and business address.**

2 A. My name is Rita F. Black and my business address is located at 375 North Shore Drive,  
3 Pittsburgh, Pennsylvania 15212.

4 **Q. By whom are you employed and in what capacity?**

5 A. I am employed by Essential Utilities, Inc. as the Director of Community Assistance  
6 Programs. In this role, I lead assistance programs for Aqua Pennsylvania, Inc. and Aqua  
7 Pennsylvania Wastewater, Inc. (collectively “Aqua PA”, “AP”, or the “Company”), and  
8 Peoples Natural Gas Company LLC, Peoples Natural Gas Company LLC (collectively  
9 “the Peoples Companies”), as well as affiliated regulated utilities operating in other  
10 states.

11 **Q. Please describe your educational and professional background.**

12 A. Following receipt of a Bachelor of Science Degree in Accounting from Robert Morris  
13 University, I joined Peoples Natural Gas Company LLC (“Peoples Natural Gas”) and  
14 began a career spanning 30 years across the areas of customer service, rates and  
15 regulatory affairs, and low-income programming. From 2001 through 2014, I worked in  
16 the Rates and Regulatory Affairs department of Peoples Natural Gas as an analyst. My  
17 responsibilities as an analyst in the Rates and Regulatory Affairs department included the  
18 development and administration of the Universal Service Rider and preparation of the  
19 Universal Service Energy and Conservation Plan (“USECP”), as well as tariff filings,  
20 testimony preparation and other analytical projects. In 2014, I was promoted to Manager,  
21 Customer Relations for Peoples Natural Gas and was responsible for oversight of all low-  
22 income programming, including its Customer Assistance Program (“CAP”), Low Income  
23 Usage Reduction Program (“LIURP”), Emergency Repair Program, Hardship Fund, and

1 Customer Assistance, Referral and Evaluation Services (“CARES”). In addition to  
2 oversight of low-income programming, I was also responsible for compliance on  
3 customer related issues for Pennsylvania, West Virginia and Kentucky. I was promoted  
4 to Director, Customer Relations in 2016 and was subsequently promoted to Director,  
5 Community Assistance Programs in April of this year with responsibility for all regulated  
6 states under the Essential Utilities footprint, including Aqua PA. In this role, my  
7 oversight of low-income programming has expanded to include our water and wastewater  
8 entities. I retain responsibility for natural gas low-income programming and compliance  
9 across our natural gas footprint.

10 **Q. Have you testified previously in any regulatory proceeding?**

11 A. Yes. I have testified in hearings conducted by the Pennsylvania Public Utility  
12 Commission (“PUC” or “Commission”) on formal complaints. I have also submitted  
13 direct and rebuttal testimony in base rate proceedings for Peoples Natural Gas.<sup>1</sup>

14 **Q. What is the purpose of your direct testimony in this case?**

15 A. In my current role, I provide leadership and guidance on low-income issues, including  
16 development and design of low-income programming for water and wastewater entities,  
17 such as Aqua PA. On January 24, 2020, the Commission approved the acquisition of the  
18 Peoples Companies by Essential Utilities, Inc., *f/k/a* Aqua America, Inc.<sup>2</sup> As part of the  
19 settlement agreement approved by the Commission,<sup>3</sup> a provision was included regarding  
20 Aqua PA’s low-income customer assistance programming. *See Aqua-Peoples Settlement*  
21 *at ¶ 108.* In my testimony, I will describe our review of Aqua PA’s current

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<sup>1</sup> See Docket Nos. R-2010-2201702; R-2012-2285985.

<sup>2</sup> Docket Nos. A-2018-3006061, A-2018-3006062 and A-2018-3006063 (Order entered Jan. 24, 2020) (“*Aqua-Peoples Acquisition Order*”).

<sup>3</sup> Docket Nos. A-2018-3006061, A-2018-3006062 and A-2018-3006063 (Joint Petition for Approval of Nonunanimous, Complete Settlement Among Most Parties dated June 26, 2019) (“*Aqua-Peoples Settlement*”).

1 programming, the methodology used to develop enhanced programs and support for low-  
2 income households and lessons learned from the Peoples Companies' experience in low-  
3 income programming that will be utilized to assist Aqua PA water and wastewater  
4 customers.

5 **Q. Please list the exhibits and filing requirements that you are sponsoring as a witness.**

6 A. Exhibits RFB-1 and RFB-2 are attached to my testimony.

7 **Q. Please share your understanding of the commitment related to low-income customer**  
8 **programs in the *Aqua-Peoples Settlement*.**

9 A. Paragraph 108 of the *Aqua-Peoples Settlement* pertains to low-income programming for  
10 Aqua PA. It notes that, through the Helping Hand Collaborative process, Aqua PA was  
11 to consider development of a comprehensive universal service and conservation program.  
12 The items for evaluation included a customer assistance program, hardship fund, water  
13 conservation program, low-income service repair program and a comparable funding  
14 mechanism as utilized by energy utilities in the Commonwealth. Following this  
15 evaluation, Aqua PA would propose a recoverable universal service plan in its next base  
16 rate proceeding using input from the Helping Hand Collaborative and best practices from  
17 the Peoples Companies.

18 **Q. Let's begin with the Customer Assistance Program component. What is a Customer**  
19 **Assistance Program?**

20 A. A Customer Assistance Program is commonly known as a "CAP." A utility's CAP is  
21 developed with the goal of increasing the affordability of utility service for a low-income  
22 household. Affordability improvement methods can include reduced payments and  
23 reductions of arrearages.

1           Reduced payments are typically achieved through one of two methods: (1)  
2           discounting of current services; or (2) percentage of income payment plans (“PIP”). In  
3           the discounting model, a qualified customer will receive a discount on current utility  
4           charges. This can be a flat discount for all qualified participants, or the discounts can be  
5           tiered to provide higher discounts to those with the lowest income. Under the PIP model,  
6           a customer’s monthly payment is based on their monthly income, rather than on their  
7           usage of utility services.

8           In addition to reducing current monthly payments through a discount or PIP, a  
9           CAP may also include methods for participants who enter the program with an arrearage  
10          to reduce the arrearage. Often, utility CAPs include a designated amount or percentage  
11          of arrearage that will be credited to the participant’s account when a monthly payment is  
12          made. Not only do these arrearage crediting, or forgiveness, programs improve  
13          affordability by reducing overall balances, they also incent participants to make regular  
14          monthly payments.

15   **Q. Does Aqua PA offer a CAP currently?**

16   A. Aqua PA offers Helping Hand, which is a program designed to help limited-income  
17          customers with arrearages to reduce the amount they owe through regular monthly  
18          payments. For each timely payment made, participants receive a \$25 credit towards their  
19          prior arrearage. However, because it does not directly address affordability of current  
20          charges through either a discount or PIP, it would not be considered a CAP program.

1 **Q. The second item mentioned in the settlement commitment is a hardship fund. Does**  
2 **Aqua PA offer a hardship fund currently?**

3 A. Yes. Customers with limited incomes can receive a grant from Helping Hand to reduce  
4 their unpaid balance.

5 **Q. Two additional programs were noted in the settlement: Water Conservation and**  
6 **Repair Programs. Does Aqua PA offer these types of programs currently?**

7 A. Aqua PA does offer a conservation program through Helping Hand. Currently, new  
8 participants to Helping Hand receive a conservation kit through the mail. Aqua PA does  
9 not have an Emergency Repair Program for low-income households.

10 **Q. In your initial review of Aqua PA's existing programming, did you find**  
11 **opportunities to assist more low-income customers?**

12 A. Yes. Helping Hand is a long-standing program that provides both a hardship grant  
13 component for those who face potential loss of service due to arrears, as well as a  
14 monthly arrearage reduction benefit of \$25. These two components, *i.e.*, hardship and  
15 arrearage reduction, are important keys to maintaining affordable utility service. To  
16 further improve affordability, adding a monthly payment reduction component, such as a  
17 CAP discount model, can greatly benefit low-income households.

18 Helping Hand also provides conservation support through kits that can assist  
19 customers reduce their ongoing water usage, which will help control monthly bills. In  
20 addition to conservation measures, Aqua PA determined that it should also consider the  
21 negative impact of leaks that can occur. A leaking toilet, for example, can use a large  
22 amount of water if the leak is not resolved in a timely fashion. Low-income households  
23 often do not have the funds to make needed repairs and find themselves facing large

1 utility bills as a result. Adding an Emergency Repair Program can provide a valuable  
2 safety net for these households.

3 **Q. You state that a discount CAP model may improve affordability for low-income**  
4 **customers. What factors did you consider in reaching this conclusion?**

5 A. The Companies performed a needs assessment of the Aqua PA service territory to  
6 determine the level of need for low-income programming (Aqua PA Exhibit RFB-1).  
7 Census data by county was used to identify those households with incomes at or below  
8 200% of Federal Poverty Level (“FPL”) as the benchmark. A 200% FPL was utilized as  
9 this is the current eligibility guideline for Helping Hand. The Companies then included  
10 the number of residential households Aqua PA serves in each of those counties to  
11 determine the projected number of households that may have difficulty with utility bills.

12 Aqua PA then considered what “affordability” means in the context of water and  
13 wastewater service. The United States Environmental Protection Agency (“EPA”), more  
14 than 20 years ago, provided a guideline that average combined water and wastewater bills  
15 that were less than 4 to 4.5% of the median income of a household were considered  
16 affordable. However, the EPA’s guideline did not consider the impact of water and  
17 wastewater bills for those living below median income. To gain more information on  
18 current trends in affordability determination, I reviewed the work of Roger Colton as  
19 commissioned by The Guardian. Mr. Colton studied 12 American cities in an effort to  
20 better understand the breadth and impacts of water poverty.<sup>4</sup> He used cities that have  
21 diverse populations, geography and poverty levels. Mr. Colton concluded that to be  
22 considered affordable, water and wastewater bills should not exceed 4% of a household’s

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<sup>4</sup> The Affordability of Water and Wastewater Service in Twelve U.S. Cities: A Study for The Guardian; Roger Colton, Fisher, Sheehan & Colton. June 2020.

1 monthly income and that for lower income levels, such as income below 49% FPL, bills  
2 should not exceed 3% of household income.

3 When we consider those living in poverty, basic needs such as rent, food and  
4 utilities can be difficult to manage. To increase the affordability of water and wastewater  
5 service for participants in Aqua PA's proposed program, the Companies are proposing a  
6 tiered structure that provides the largest benefit to those with the least income. This  
7 tiered structure is similar to the structure in place at the Peoples Companies. Three tiers  
8 set at 100% FPL, 150% FPL and 200% FPL are proposed in order to provide the highest  
9 level of discounts to those in the first tier and gradually reduce the discounts in the other  
10 tiers.

11 **Q. Please describe the discounts proposed for participants in the proposed Aqua PA**  
12 **CAP program.**

13 A. The proposed Aqua PA CAP program will be available to both water and wastewater  
14 customers. All participants will receive a discount towards their base facility customer  
15 charge. Based on income, some participants will also receive a discount on their  
16 consumption of the first 2,000 gallons. For a wastewater customer that is billed a flat  
17 rate, the discount for the unmetered charge would apply. Details on the proposed  
18 discounts are provided in Aqua Exhibit RFB-2.

19 **Q. Will the bill discounts be the only benefit to CAP participants under this proposal?**

20 A. No. Aqua PA recognizes that to best tackle household affordability, it should consider  
21 not only current bills, but arrearages participants may have as well. Therefore, the  
22 proposal includes retaining the Helping Hand arrearage benefit credit of \$25 a month  
23 when timely CAP payments are made.

1 **Q. Is the Aqua PA CAP program a replacement to Helping Hand? If so, how will**  
2 **Helping Hand participants be impacted?**

3 A. Aqua PA’s proposed CAP program is intended to build upon the successful aspects of  
4 Helping Hand by adding additional measures to improve overall affordability while  
5 implementing best practices of the Peoples Companies. It is Aqua PA’s intent to provide  
6 outreach to current Helping Hand participants to encourage them to enroll in the new  
7 program.

8 **Q. Another program component that you mentioned as a possible improvement to**  
9 **Helping Hand is an Emergency Repair Program. Please describe this program.**

10 A. For a non-low-income homeowner, a leaking toilet or faucet means a call to a plumber to  
11 resolve the problem in a timely manner. However, low-income homeowners often do not  
12 have the funds available to manage even a small emergency such as a plumbing repair.  
13 As a result, minor leaks continue for a long time, wasting water and driving up water and  
14 wastewater bills. The higher bills can, in turn, cause more payment difficulty for the  
15 household. An Emergency Repair Program, similar to the program offered by the  
16 Peoples Companies for its low-income households that face gas line repairs and heating  
17 appliance failures, can be a critical safety net. With an Emergency Repair Program, low-  
18 income homeowners that contact Aqua PA about their bill and identify an ongoing leak  
19 can obtain assistance with the cost of the repair. Aqua PA is proposing a \$100,000  
20 annual budget for assistance that will include conservation kits to decrease overall water  
21 usage as well as an emergency component for those with leaks requiring repair.

22

1 **Q. In addition to listing programs that should be considered, the *Aqua-Peoples***  
2 ***Settlement* also mentioned a “comparable funding mechanism as utilized by energy**  
3 **utilities in the Commonwealth.” Please describe this mechanism and the program**  
4 **costs that will be recovered through it.**

5 A. Aqua PA proposes implementing a Universal Service Rider (“USR”), similar to the riders  
6 in place at the Peoples Companies and other energy utilities throughout the state, to  
7 recover the costs of programs from residential consumers. The following costs are  
8 proposed for inclusion in the rider:

- 9 • CAP discounts;
- 10 • CAP arrearage forgiveness benefits (\$25 credit for timely payments  
11 made);
- 12 • CAP administration by third party; and
- 13 • Conservation and Emergency Repair Program (\$100,000 annually).

14 More information regarding the rider is provided in the direct testimony of Erin Feeney  
15 (AP Statement No. 2).

16 **Q. To your knowledge, what is the basis for this type of cost recovery method for CAP**  
17 **programs?**

18 A. Title 52, Chapter 69 provides a Policy Statement on Customer Assistance Programs.  
19 Specifically, §69.266(b), states: “[i]n rate cases, parties may raise the issue of recovery of  
20 CAP costs, whether specifically or as part of universal service program costs in general,  
21 from all ratepayer classes.” CAP programs are designed to support low-income  
22 households by increasing affordability and CAP cost recovery mechanisms, such as the

1           USR Aqua PA proposes in this case, are intended to properly recover the costs of both  
2           the benefit of the program to participants as well as the costs of offering such programs.

3   **Q.    The Aqua-Peoples Settlement, approved by the Commission, specifically mentions a**  
4           **“comparable funding mechanism as used by energy utilities in the Commonwealth.”**  
5           **Can you describe in more detail why the Rider USR is an appropriate mechanism**  
6           **for Aqua PA’s proposed programs?**

7    A.    Energy utilities in the Commonwealth have a long history of implementing riders, such as  
8           the proposed USR, to track and recover costs associated with universal service programs.  
9           Peoples Natural Gas received approval in its 2010 base rate case to implement such a  
10          rider. The rider Aqua PA proposes is very similar in nature to the rider used by Peoples  
11          for a number of reasons. Throughout the settlement commitments to the acquisition case,  
12          there was a general theme of sharing best practices throughout Aqua PA and Peoples.  
13          Peoples has implemented universal service programs that have been reviewed by  
14          independent evaluations and PUC audits for a number of years. The funding  
15          mechanism for its programs, is a rider that tracks actual costs for recovery. The use of  
16          the rider ensures that ratepayers are only responsible for actual costs of the  
17          program, rather than projected costs that may not come to fruition if enrollment is less  
18          than expected, for example.

19   **Q.    What enrollment assumptions did Aqua PA consider in planning for CAP**  
20          **enrollment and related costs under the proposed Aqua PA CAP?**

21    A.    Aqua PA’s needs analysis provided an overview of the number of customers potentially  
22          eligible to participate in the program. However, based upon my experience at the Peoples  
23          Companies and the experience of other utilities, only a percentage of the income eligible

1 population typically participate in these types of programs. In order to project costs,  
2 Aqua PA assumed that 25% of the eligible population would participate in CAP. As a  
3 new program, Aqua PA further anticipates that enrollment will grow over time as it  
4 provides outreach and increases awareness of the program. To reflect this growth, Aqua  
5 PA anticipates that 10% of the eligible population would participate in the first year of  
6 the program growing to 25% by the third year of the program.

7 **Q. The *Aqua-Peoples Settlement* commitment referenced using best practices of the**  
8 **Peoples Companies. Can you please provide some examples of these best practices?**

9 A. As natural gas distribution companies in Pennsylvania, the Peoples Companies have well-  
10 established low-income programming that meet PUC requirements for energy utilities.  
11 The Peoples Companies' CAP program serves customers with incomes up to 200% FPL,  
12 similar to Aqua PA's Helping Hand program. Peoples CAP was historically a 3 tier PIP  
13 serving customers up to 150% FPL. In 2016, Peoples proposed an expansion of its  
14 program to serve the needs of customers between 151 and 200% FPL under a Pilot to its  
15 Universal Service and Energy Conservation Program ("USECP"). As a result, Peoples'  
16 program has 4 tiers classifying customers in the following groups: 0 to 50% FPL; 51 to  
17 100% FPL; 101 to 150% FPL; and 151 to 200% FPL. The tier model was used to  
18 develop discounts for Aqua PA's proposed program as well. In order to streamline the  
19 tiers and ensure those with the lowest income received the most benefit, the Aqua  
20 proposal uses only 3 tiers: 0 to 100% FPL; 101 to 150% FPL and 151 to 200% FPL. The  
21 Peoples Companies also have a conservation program through LIURP and offers an  
22 Emergency Repair Program to serve those customers with immediate needs due to failure  
23 of a furnace, boiler or gas line. This Emergency Repair Program component is well

1 utilized at the Peoples Companies and Aqua PA believes a similar program will be very  
2 beneficial to Aqua PA's low-income homeowners.

3           Going forward, the best practices of the Peoples Companies that will be most  
4 critical to the success of Aqua PA's proposed CAP programs will be their practices  
5 related to outreach and education of consumers, and practices related to collaboration  
6 with social service agencies as well as other interested parties. An outreach and  
7 education plan that incorporates both broad messaging and targeted efforts will provide a  
8 comprehensive approach to enrolling customers into the CAP program. Broad messaging  
9 increases awareness to customers who may need the program or may know someone who  
10 does. Targeted efforts are designed to locate those who are most in need of the programs.  
11 Broad messaging at the Peoples Companies includes bill inserts and website information,  
12 while targeted efforts can include targeting school districts with a high percentage of free  
13 and reduced lunch participants for flyers and handouts. Collaboration with social service  
14 agencies and interested parties has been very beneficial to the Peoples Companies. The  
15 Peoples Companies' Universal Service Advisory Group ("USAG") meets quarterly and  
16 the input gained from these sessions has led to improved outreach materials, changes to  
17 customer communications and has increased awareness of the Peoples Companies'  
18 programs in the communities they serve. Building on the existing Helping Hand  
19 Collaborative by incorporating the Peoples Companies' model, Aqua PA can further its  
20 efforts in this area as well. Meetings can be held quarterly and provide not only an  
21 update on program participation, but further develop its collaborative nature through  
22 adding participation from local social service agencies and an increased focus on  
23 outreach activities.

1           Finally, the Peoples Companies use Dollar Energy Fund as its CAP administrator.  
2           Aqua PA is proposing to also use Dollar Energy Fund to administer the proposed Aqua  
3           PA CAP. Dollar Energy Fund provides a flexible enrollment model that allows for  
4           customers to participate in several ways. Customers can enroll online via their ‘MyApp’  
5           online application, over the phone by speaking to an agent or at a local social service  
6           agency. This model will provide significant convenience and increase the likelihood that  
7           those most in need of CAP will be able to participate. The CAP administrator costs will  
8           be recovered through the USR, as is the case for the Peoples Companies.

9   **Q.   The Aqua-Peoples Settlement commitment also mentioned gaining input from the**  
10 **Helping Hand Collaborative. Was input from this group sought?**

11 A.   Yes. On May 19, 2021, Aqua PA provided an overview of its proposal to the Helping  
12 Hand Collaborative to seek input into its plans. The overview included the needs  
13 analysis, projected enrollment levels, proposed discounts, program designs and estimated  
14 costs. Participants noted the tiered benefits were an important part of the design by  
15 providing the highest amount of benefit to the most vulnerable. The group did not  
16 recommend any changes to the proposal at the time and Aqua PA looks forward to any  
17 input they may have on our proposal in this base rate case proceeding.

18 **Q.   Does this conclude your direct testimony?**

19 A.   Yes. I reserve the right to submit supplemental testimony if additional issues arise during  
20 the course of this proceeding. Thank you.

## Needs Assessment – Aqua PA Customer Assistance Program

### PUC PA Poverty Data

- Poverty levels by county; poverty levels shown for households, families and individuals.
- Source: 2015-2019 American Community Survey 5-year estimates – United States Census Bureau

### Aqua PA Customer Base

- Active residential accounts as reflected in the customer billing system.

County	Aqua PA County Customers	Households in County (Census)	% Households Served by Aqua	Households at or below 200% FPL	
				Households in County (Census)	Estimate of Households Served by Aqua
Adams	426	39,345	1.1%	10,874	118
Berks	2,050	154,712	1.3%	56,133	744
Bradford	4,546	25,021	18.2%	10,034	1,823
Bucks	27,435	238,830	11.5%	48,023	5,517
Carbon	1,055	26,043	4.1%	9,011	365
Chester	69,769	190,980	36.5%	39,603	14,468
Clarion	67	16,021	0.4%	7,354	31
Clearfield	4,282	31,248	13.7%	13,434	1,841
Columbia	786	26,372	3.0%	10,783	321
Crawford	912	35,164	2.6%	14,930	387
Cumberland	322	99,804	0.3%	25,199	81
Delaware	131,473	207,257	63.4%	58,495	37,106
Forest	348	1,839	18.9%	855	162
Juniata	50	9,372	0.5%	3,996	21
Lackawanna	1,683	87,161	1.9%	34,444	665
Lawrence	583	37,055	1.6%	14,871	234
Lehigh	412	138,714	0.3%	50,090	149
Luzerne	7,038	128,660	5.5%	50,779	2,778
Mckean	399	17,147	2.3%	7,307	170
Mercer	15,115	46,340	32.6%	17,721	5,780
Monroe	2,375	57,098	4.2%	19,759	822
Montgomery	116,483	316,206	36.8%	61,825	22,775
Northampton	74	114,185	0.1%	31,624	20
Northumberland	13,392	39,075	34.3%	16,298	5,586
Philadelphia	19	601,337	0.0%	303,307	10
Pike	5,562	22,119	25.1%	6,649	1,672
Schuylkill	2,456	58,749	4.2%	23,208	970
Snyder	1,062	14,794	7.2%	5,487	394
Susquehanna	77	17,235	0.4%	6,409	29
Venango	609	22,050	2.8%	9,223	255
Warren	289	17,115	1.7%	6,869	116
Wayne	2,867	18,841	15.2%	7,032	1,070
Wyoming	1,031	10,790	9.6%	3,603	344
<b>Total</b>	<b>415,047</b>	<b>5,053,106</b>	<b>8.2%</b>		<b>106,823</b> <b>Less Than 200% Poverty</b>

## Aqua Customer Assistance Program (CAP) Benefits

WATER	WASTEWATER
<p>Base Facility Customer Charge: Tiers 1-3: \$0 <b>100% discount on fixed</b></p>	<p>Base Facility Customer Charge: Tier 1: <b>75% discount on fixed</b> Tier 2: <b>65% discount on fixed</b> Tier 3: <b>50% discount on fixed</b></p>
<p>Consumption Charge: <b>100% discount on consumption of first 2k gallons</b> for residential water customers at or below 100% FPL. <b>50% discount on consumption of first 2k gallons</b> for residential water customers with incomes between 101 and 150% FPL. <b>0% discount on consumption</b> for residential water customers with incomes between 151% and 200% FPL.</p>	<p>Consumption Charge: <b>100% discount on consumption of first 2k gallons</b> for residential water customers at or below 100% FPL. <b>50% discount on consumption of first 2k gallons</b> for residential water customers with incomes between 101 and 150% FPL. <b>0% discount on consumption</b> for residential water customers with incomes between 151 and 200% FPL.</p>